Sustainability Report 2020

Hydro Québec

Putting our collective energy to work for the common good

Our mission is to deliver reliable electric power and high-quality services. By developing hydraulic resources, we can contribute to collective wealth and the emergence of a low-carbon economy. We take pride in the clean, renewable nature of our hydropower—an energy form without equal. To complement this resource, we are also turning our attention to other renewables, such as wind, solar and clean hydrogen.

Our sustainability vision goes well beyond the environment. We strive to have stakeholders participate in our decisions. We are also determined to contribute to Québec's collective wealth and to maintain a low-carbon economy.

To guide us forward, we are structuring our work around three pillars.

Summary of the three pillars and twelve strategies of our *Sustainable Development Plan 2020-2024*

Governance

Be a sustainable development leader by keeping to the highest sustainability standards, both internally and with our partners.

p. 14

Community

Contribute to Québec's social and economic development while improving the social acceptability of our projects and operations.

p. 33

Environment

Become an environmental leader through our choices, innovative practices and expertise.

p. 55

How to use this report

Interactivity

This report, presented in PDF format, has interactive features made possible by Adobe Reader software.

Features

Additional information on the web

Additional or more detailed information

Hyperlink to another page in the report

Exclusive web content

Global Reporting Initiative
Hyperlink

GRI (Global Reporting Initiative)

In this report, the GRI disclosures covered in each page are listed at the top of the page.

Navigation

Go to previous or next page

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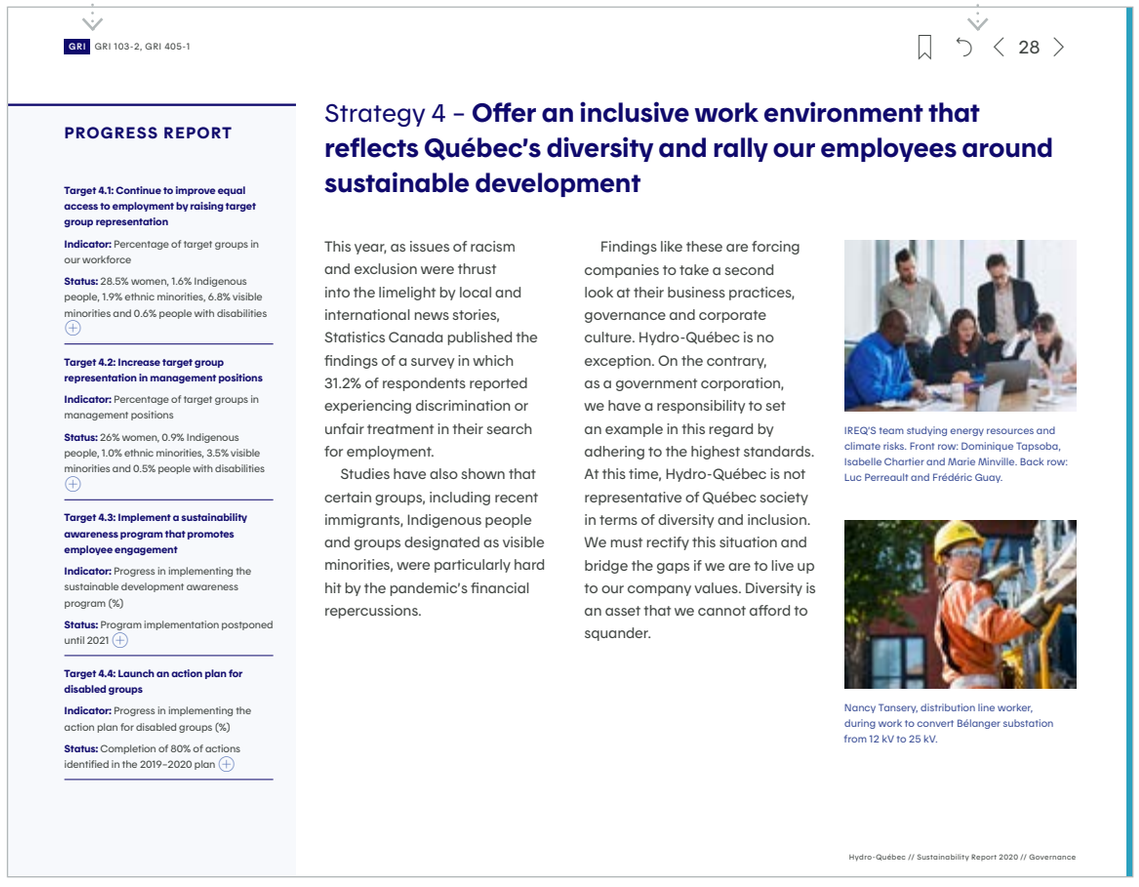
Access bookmarks



Cover: Impoundment of Romaine 4 reservoir. Priority work for impounding the reservoir resumed in May 2020, allowing filling to begin in June while the dam was still unfinished—a first! The construction of the dam is now complete and concreting is ongoing at the powerhouse, whose commissioning has been postponed to 2022.

Hydro-Québec in 2020

Our system

37,231 MW
Installed capacity of the generating fleet

538
Number of substations

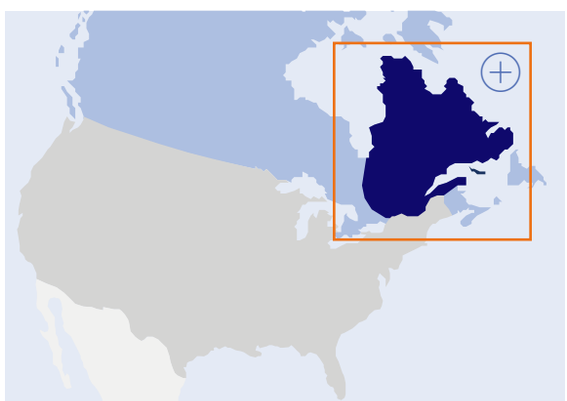
61
Number of hydroelectric generating stations

119,345 km
Length of the medium-voltage distribution system

24
Number of thermal generating stations

34,826 km
Length of the transmission system

Map of major facilities



Our human resources

20,011
Number of employees

44.9 years
Average age

28.5%
Proportion of women

1,279
New employees

773
Retirements

194
Number of internships

Message from the President and Chief Executive Officer

Sophie Brochu
President and Chief Executive Officer

What a year! I took office just as Québec was being hit by the first wave of the pandemic! Despite the general lockdown, suspending operations was not an option for Hydro-Québec. Hospitals, pharmacies and grocery stores need us if they are to continue their important work. The priority: to protect our employees from the virus. Electricity supply is an essential public service and, as such, it requires a healthy team. We educated our field crews about sanitary measures and provided them with protective equipment. The rest of our employees—over 50%—began working from home. That is when I realized how quickly Hydro-Québec could respond to a major challenge.

In Québec, as elsewhere, the impact was considerable. And yet, despite the severity of the damage, I cannot view this situation as a curse. What I see is a revolution—a not-so-quiet one—that has forced us to confront our weaknesses and rethink the way we do things. Fortunately, Hydro-Québec seems to have been built to take on storms. Since its founding, the company has been through several major upheavals. These experiences helped build three key components of Hydro-Québec's DNA: solidarity, resilience and innovation.

Solidarity

Getting through difficult times requires a strong sense of solidarity. That has never been a problem for Hydro-Québec. Solidarity was one of the company's founding values. When Hydro-Québec was created in 1944, the government's goal was to make electricity available and affordable for all Quebecers, including those living in the most remote areas. It was a true solidarity revolution. Since then, as a driver of economic growth, Hydro-Québec has continued to serve the common good: for example, by attracting aluminum smelters and greenhouses to the province through its rates, by fostering the emergence of an electric mobility industry in Québec, and by developing internationally sought-after expertise in a variety of areas.

In times of crisis, solidarity becomes essential for the survival of society. Despite a drop in our revenue, we stood in solidarity with our customers, many of whom were hard hit. We let them know that we would be patient if they were having difficulty paying their electricity bills, we suspended service interruptions for nonpayment and we signed many payment arrangements tailored to customers' needs. To support our suppliers, we accelerated payments to them, reducing our payment terms by half. At the community level, we maintained our donations and sponsorships to organizations—including Centraide—that are facing increased demand and funding difficulties.

Our solidarity is not limited to Québec; it extends to the whole world. On page 87, you can read about how we support the Ten Principles of the United Nations Global Compact in the areas of human rights, labor standards, environmental protection and the fight against corruption. We incorporate these principles into our development strategies, business practices and management processes.

Resilience

The pandemic was also a test of resilience: another fundamental component of Hydro-Québec's genetic makeup. Our primary raw material—water—is stored behind dams. These hydraulic reserves could supply Québec for an entire year without so much as a single drop of rain. That being said, the rain does fall; our water supplier is very reliable.

Resilience is the ability to absorb an impact and bounce back. The greater the impact, the further we can rebound. At Hydro-Québec, our resilience is not limited to our raw materials, but includes transmission and distribution. In 1998, we were dealt a heavy blow: a major ice storm that exposed the weaknesses in our transmission system. We learned from the experience, made improvements, and rebounded with a more robust system.

The current pandemic has highlighted another ingredient of resilience: an adequate pool of human resources. In sports, we call this depth. For the post-pandemic recovery, we plan to add depth to our team and leverage talents from all sectors of society. It is a matter of resilience and equity, but also of profitability. Exclusion doesn't pay.

Technological innovation

Another fundamental component of Hydro-Québec's DNA, innovation is indispensable during times like the one we are in. Fortunately, at Hydro-Québec, we live and breathe innovation. It is a passion—and sometimes an obsession—of ours. After the public health crisis, we plan to focus that passion on growing and decarbonizing Québec's economy.

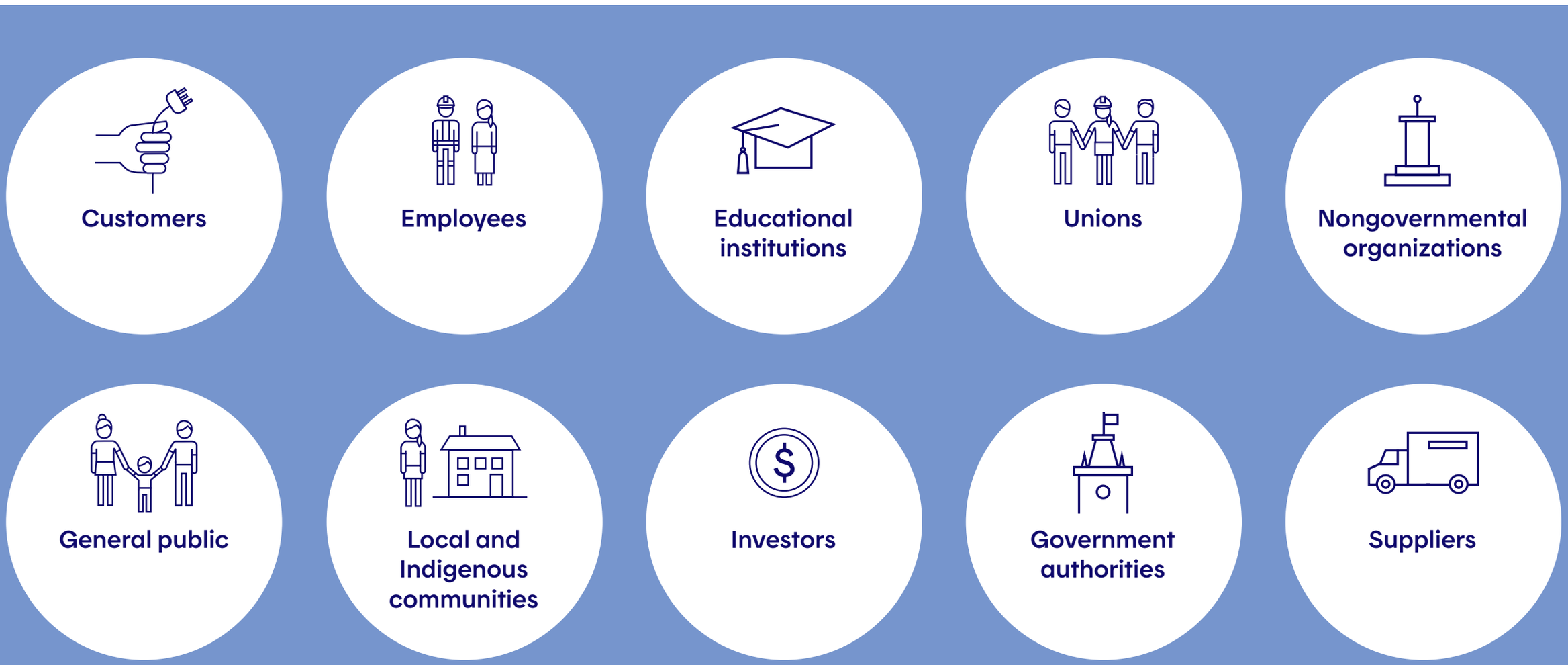
We'll be here to support the recovery of a transformed Québec. We will continue to be a force for the common good in the hands of Quebecers. We will continue to listen to their hopes and ambitions. We will work with communities to make their vision of sustainability a reality.

Sophie Brochu

Mutually beneficial relations

Owing to the nature of our operations, we are present throughout the province and we maintain mutually beneficial relations with our stakeholders. This dialogue enables us to preserve trust, obtain support for important activities and even occasionally reconcile diverging interests. The Sustainability Report is intended to provide honest, transparent information to all our stakeholders.

Click on each stakeholder group's illustration for examples of shared sustainability goals.



About this report

The *Sustainability Report 2020* describes Hydro-Québec's performance with respect to its main economic, environmental and social issues. This edition, published in May 2021, is the nineteenth such report produced by Hydro-Québec.

Scope

This report mainly addresses the issues and impacts of Hydro-Québec's activities in Québec from January to December 2020.

New features

- Report structure has been completely revised and will from now on be based on our *Sustainable Development Plan 2020–2024*, in effect since January 2020. The plan sets out twelve strategies linked to three pillars (governance, community and environment), and the report presents the progress we have made on the plan's actions. The year was marked by a host of challenges that led us to review certain priorities. Although several activities continued, some were postponed to 2021.
- Integration of the comments made by an advisory committee composed of external stakeholders from each of the different stakeholder groups with whom we work closely.
- Review of the approach used to verify the information in the *Sustainability Report*. We applied a decision-making grid to identify the relevance of verifying different components of information. As a result, the items verified have changed, with new items introduced and some of the previous ones removed. This new approach helps us concentrate our efforts on the external verification of the most relevant data. However, all the information contained in this report was collected and verified in-house.
- Reporting was improved in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures – TCFD (see p. 82).

Communication tools

In order to reach the largest possible number of stakeholders, Hydro-Québec employs various tools for communicating and reporting on its sustainability.

- *Sustainability Report 2020*
- Sustainable development website
- *Sustainable Development Plan 2020–2024*
- *Annual report 2020*
- Quarterly reports
- Videos
- Presentations at various events (exhibitions, university activities, conferences, symposiums, etc.)

Application of recognized standards

Stakeholders expect Hydro-Québec's Sustainability Report to be complete, and that the information presented be accurate, balanced and transparent. This report has therefore been prepared in accordance with the GRI Standards: Core option. The Electric Utilities Sector Supplement has also been used. These standards ensure the credibility and quality of sustainability reporting. Readers can consult the partial GRI index on page 88 of this report or the complete index in the Global Reporting Initiative section of Hydro-Québec's Web site.

In addition, an outside firm conducted an independent audit of a large amount of quantitative data and verified that the report took into account information relevance criteria and the views and feedback of stakeholders. The data verified is presented in the section Audited performance metrics (see p. 79). An external assurance statement is supplied on page 92.

NOTE: Some of the photographs in this document were taken before the pandemic and the implementation of hygiene measures by Hydro-Québec.

Materiality analysis

The materiality analysis is used to determine the content of the Sustainability Report, which must cover the topics that are of the greatest materiality for our business environment and for the nature of our operations and their economic, environmental and social impacts. This exercise is carried out in collaboration with Hydro-Québec's internal and external stakeholders. Conducted in 2011, 2014, 2017 and 2020, our materiality analysis process involves three stages: identification, prioritization and validation.

Identification

The first stage consists in verifying if the list of sustainability aspects related to Hydro-Québec's operations and their impacts is up-to-date and accurately reflects the company and the business and biophysical environments in which it operates. A variety of internal and external sources of information are used for this verification, including:

- The results of the last consultation exercise, which for this year's report was the one done in 2017.
- The results of the survey of stakeholder satisfaction carried out following the publication of the last report, in this case the *Sustainability Report 2019*.
- The material aspects in the GRI Standards and the GRI's Electric Utilities Sector Supplement.
- Analyses of energy industry aspects, such as those produced by the Electric Power Research Institute, International Hydropower Association and Waterpower Canada.
- A comparative analysis of topics raised by several other companies in the energy industry.
- The company's strategic priorities.

In 2020, this stage of the analysis confirmed that the 34 sustainability aspects used in the previous analysis remain relevant and that their definitions are still clear. We therefore kept the same issues and definitions for this report.

Prioritization

Stakeholders are prioritized based on three criteria: influence, impact and partnership level. We use various consultation methods depending on the different categories, including a survey for all stakeholders and discussion sessions for priority stakeholders. In 2020, we sent out an e-survey to assess the relative importance of each aspect and determine which aspects stakeholders wanted to hear more about in our report. Out of 192 invitations sent to external stakeholders, 52 organizations responded to the survey; in addition, 82 Hydro-Québec employees responded (out of 278 invitations sent). The response rates were therefore 26% and 30%, respectively. The survey results are shown in the Materiality Matrix.

Validation

Following the publication of this report, a discussion session will be held with an advisory committee composed of external stakeholders. The committee will be invited to comment on the report and propose improvements for the *Sustainability Report 2021*.

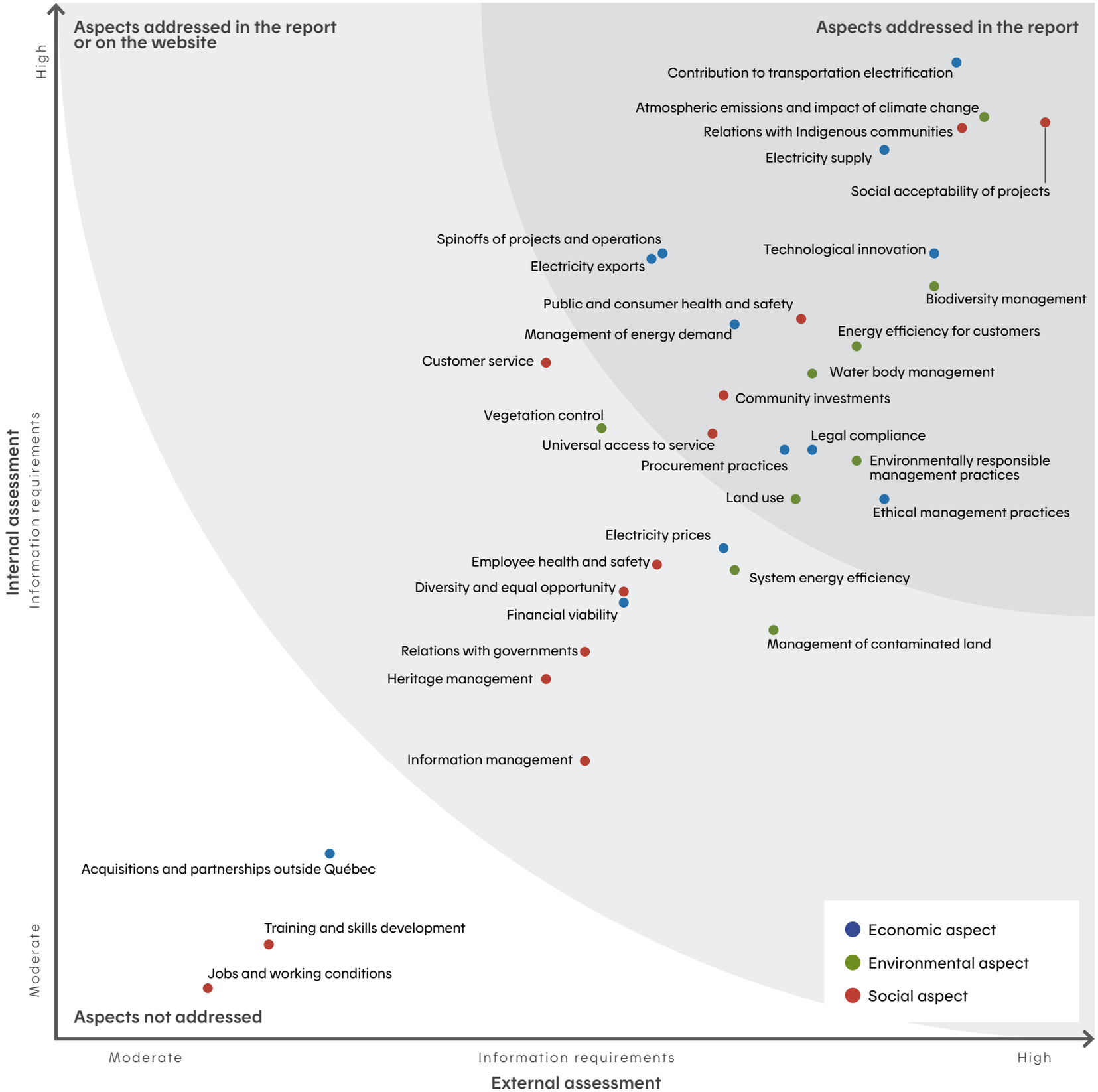
Creation of an advisory committee of external stakeholders

We have set up an advisory committee made up of representatives of our priority stakeholders in the area of sustainability. The committee met for the first time in January 2021.

Composed of a fixed core of six members, the committee's mandate is to discuss, assess and analyze specific topics. It will meet three times a year.

By evaluating the projects and files presented by this committee, we gain access to an external, objective and critical viewpoint. The topic of the first meeting was the sustainability aspects and how to address them in this report, with a focus on the 10 aspects ranked most important in terms of the level of information required. The results of the materiality analysis surveys were shared with the committee, and members were asked their specific information needs for each of the aspects. All expectations expressed by stakeholders were taken into account in this report.

Click on an aspect to find out its scope.



Value chain

The value chain includes all activities that create value, from product design to service provision. At Hydro-Québec, we integrate criteria for environmental protection, social progress and economic development into every link in this chain.

Construction

$2.1 billion

Volume of activity

Generation

37,231 MW

Installed capacity

Transmission

34,826 km

Length of transmission lines

Distribution and customer service

4,402,800

Customer accounts

Management and support of our activities, and business development

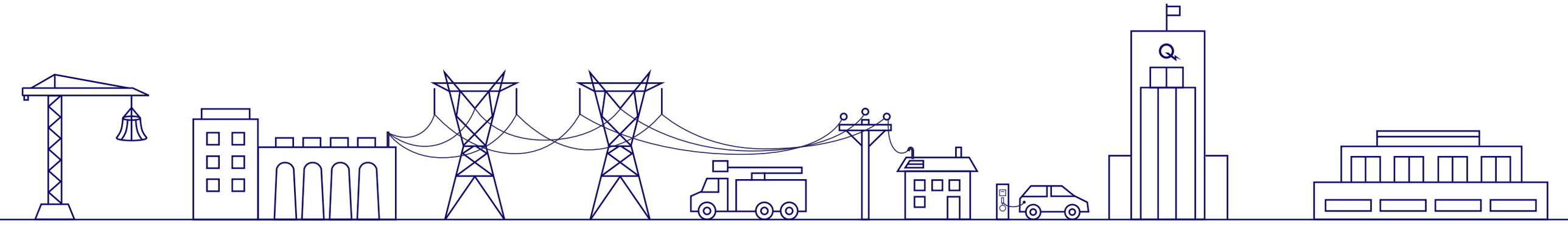
$3.6 billion

Contribution to the Québec government's revenue

Technological innovation

$158 million

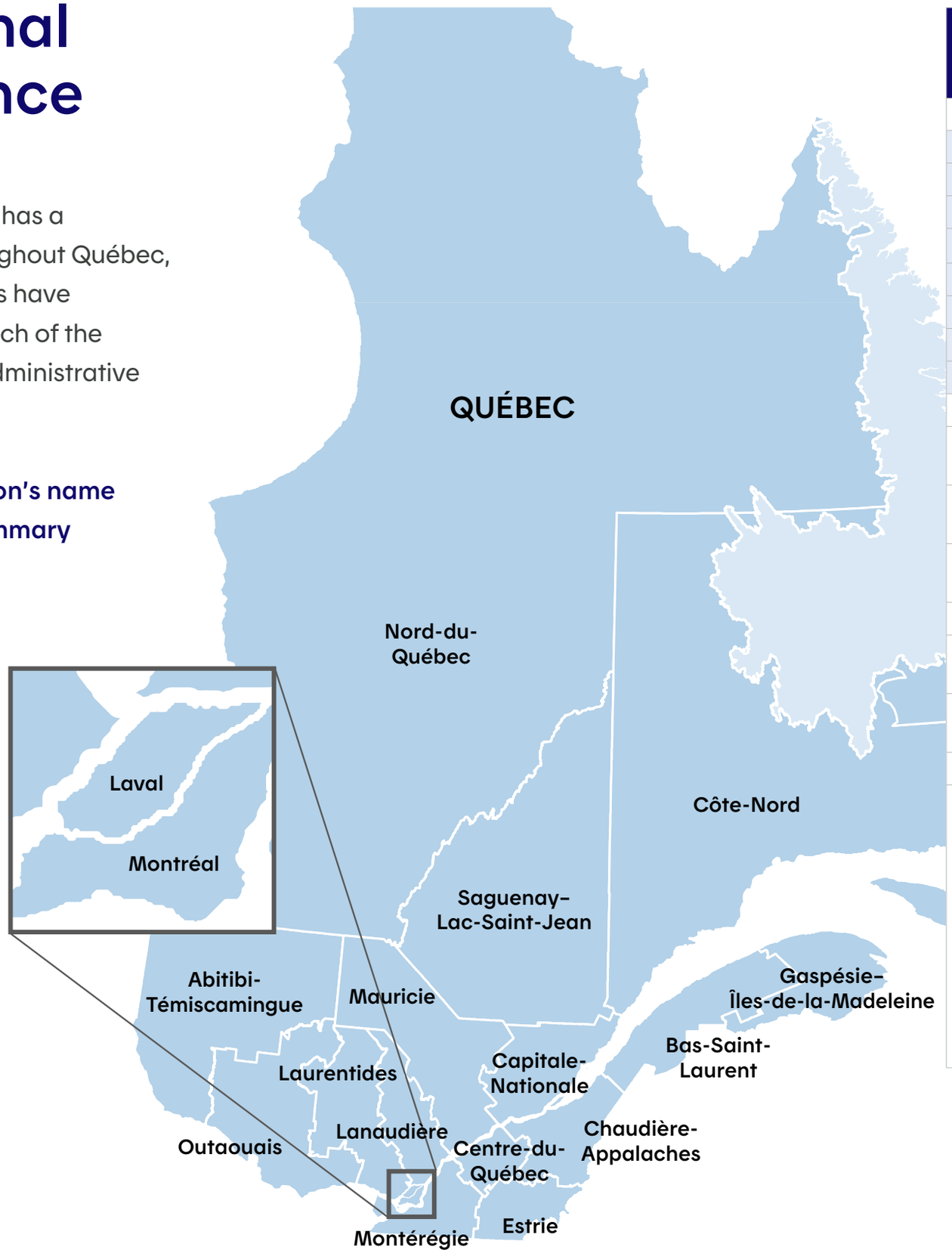
R&D budget allocated to IREQ in 2020



Regional presence

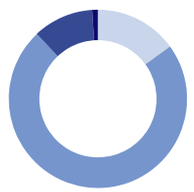
Hydro-Québec has a presence throughout Québec, and its activities have an impact in each of the province's 17 administrative regions.

Click on a region's name to view the summary for that region



QUÉBEC	
Population[a]	8,574,571
Generating stations in operation (number)	85
Installed capacity (MW)[b]	37,231
Transmission substations (number)[c]	538
Transmission lines (km)[d, e]	34,826
Surface area of properties (ha)[b, f]	23846
Administrative buildings (number)	169
Employees (number)	20,011
Customer accounts (number)	4,402,800
Renewable energy purchases (GWh)[b]	16,410
Procurement of goods and services in the region ($M)[b]	2,734
System average interruption duration index (SAIDI) - distribution system (min/customer)	256
University research partnerships (number)/ Contribution[g]	40/3,270,559
Visitors to Hydro-Québec facilities (number)	26,730
Integrated Enhancement Program (number of initiatives/amount granted in $)	28/5,529,180
Electric Circuit public charging stations (number)	2,945
Donations and sponsorship ($M)[h]	19.3

Breakdown of purchases from independent power producers (GWh)



Hydropower	2,373
Wind	12,016
Biomass	1,852
Biogas	170
TOTAL[b]	**16,410**

These figures include renewable energy certificates (1,232 GWh) that were sold to third parties.

Overall total and sum of subtotals may differ due to rounding in each of the administrative regions.

Notes

Our contribution to sustainable development goals

The 17 sustainable development goals of the United Nations Development Programme were adopted by world leaders in the fall of 2015 and took effect January 1, 2016. These goals build on the successes of the Millennium Development Goals, while including new priorities, such as climate change and energy efficiency.

Hydro-Québec intends to do its part by pursuing the goals most relevant to its industry and its projects. The 17 goals have 169 targets that demonstrate the scope and ambition of the new program. The goals and targets provide guidance for initiatives to be carried out by 2030 in the fields most important to humanity and the planet.

We published our *Sustainable Development Plan 2020-2024: Drawing on the Past to Shape the Future*, which contains 7 goals and 11 targets designed to increase our efforts to apply the United Nations Global Compact principles in each of four areas.

SUSTAINABLE DEVELOPMENT GOALS

Hydro-Québec plans to contribute by pursuing **goals 7, 8, 10, 12, 13, 15 and 16**, which are the most relevant to its industry and its projects. **Click on any one of these goals to learn more.**

Governance

Governance

Be a sustainable development leader by keeping to the highest sustainability standards, both internally and with our partners

Along with its organizational structure, policies and guidelines, Hydro-Québec's governance model guarantees that the social, economic and environmental aspects of our collective interest are carefully considered at every step of the planning and decision-making process.

Our governance process provides a framework for ensuring that our projects and operations take every facet of sustainability into account. As shown in this section of the report, we have a number of mechanisms in place to ensure that our suppliers act responsibly, that our employees and partners are safe and healthy, that we provide a fair and inclusive workplace, and that our personnel are fully committed to sustainable development.

Our strategies

- Make sustainability principles integral to our governance, operations and projects
- Do business with responsible suppliers
- Significantly improve our occupational health and safety performance while fostering employee wellness
- Offer an inclusive work environment that reflects Québec's diversity and rally our employees around sustainable development

In this section

Stakeholders

Materiality analysis aspects

PROGRESS REPORT

Target 1.1: Integrate sustainability principles into our corporate guidelines

Indicator: Percentage and number of policies and guidelines incorporating sustainability principles

Status: Beginning in 2021 as part of the review of corporate policies

Target 1.2: Earn public recognition for our leadership in responsible governance

Indicator: Number of new recognitions for our leadership in responsible governance

Status: One new mark of recognition obtained and ISO 37001 certification postponed to 2021

Strategy 1 – **Make sustainability principles integral to our governance, operations and projects**

The Governance and Social Responsibility Committee, which reports to the Board of Directors, plays a key role in making sustainability an integral part of Hydro-Québec's governance and operations.

In 2020, the committee reviewed the *Sustainable Development Plan 2020–2024*, the results of the 2019 annual review of environmental management and the fight against corruption, and the *Sustainability Report 2019*. It also monitored issues in Indigenous relations and supported management with the process of obtaining Progressive Aboriginal Relations (PAR) certification.

Main sustainability governance activities

Performance reporting Accountability

Board of Directors

- **Three committees, as required under the *Hydro-Québec Act***: Governance and Social Responsibility, Audit, and Human Resources. In addition to these mandatory committees, the Act allows Hydro-Québec to create other committees to study specific matters or facilitate the company's operations. Currently, the Board has just one committee established for that purpose: Financial Affairs, Projects and Technologies. All committees report to the Board, sharing advice and recommendations.

  Role of the Governance and Social Responsibility Committee

- **Approval or review of documents,** including corporate policies, code of ethics, employee Code of Conduct, Strategic Plan, Business Plan, Annual Report and Sustainability Report.

President and Chief Executive Officer

- **Approval of the following documents:** internal guidelines, Sustainable Development Plan
- **Annual management reviews pertaining to the environment and health and safety**

Structural units

- **Various internal networks for discussing issues such as the environment and occupational health and safety**
- **Maintenance of certified management systems**
- **Environment and sustainability training**
- **Annual management review pertaining to the environment**

Strong governance

Hydro-Québec has a sole shareholder: the Québec government. The major priorities adopted by the Québec government—mainly through its Energy Policy and Sustainable Development Strategy—have a direct impact on the planning of all Hydro-Québec activities.

In late 2020, Hydro-Québec's Board of Directors was composed of 17 members appointed by the Québec government: 10 women and 7 men from regions across Québec and a variety of industry backgrounds. As stipulated in the *Act respecting the governance of state-owned enterprises*, at least one member of the Board was 35 years of age or less at the time of his or her appointment. The Board of Directors also adopts policies and codes of conduct that guide the company's operations and the actions of its employees.

In 2020, the Board of Directors merged the Governance and Ethics Committee with the Health and Safety, Environment and Social Responsibility Committee to create the Governance and Social Responsibility Committee.

With regard to the environment and sustainability, the Committee had discussions with management on the initiatives currently in place to mitigate risks and seize opportunities related to Hydro-Québec's environmental attributes, as well on its positioning in relation to the economic recovery. The Committee was also briefed on the steps taken by the company to produce an inventory of climate change–related risks.

Hydro-Québec's head office, Édifice Jean-Lesage. In late March, the logo was illuminated in rainbow colors as a gesture of hope and solidarity.

Along with the authority of the shareholder and Board of Directors, Hydro-Québec is under the authority of the Régie de l'énergie du Québec, which approves its planning tools and rate establishment practices for distribution and transmission activities, as well as approving transmission system investments.

Committees of the Board of Directors (W)

Expertise and experience profiles for Board members (in French only) (W)

Electricity regulation in Québec (+)

Sustainability governance

Commitment

- Mission
- Company policies
- Codes of conduct
- Our values (+)

Planning

- Government guidelines (+)
- *Strategic Plan 2020–2024*
- *Sustainable Development Plan 2020–2024*
- Business plans of major structural units

Implementation

- Management system containing components certified to international standards (ISO 14001, ISO 37001, ISO 9001, etc.)
- Annual review of the company's portfolio of business risks
- Environmental assessments (including impact statements and internal assessments)
- Research and development
- Stakeholder relations
- Internal discussion networks
- Training

Performance reporting

- Internal (annual reviews of company policies and guidelines, selected business lines and semi-annual compliance reports)
- External (corporate documents)

Assessment and improvement

- Application of sustainability principles (in French only)
- Compliance audits
- Indicators

Guidelines and mechanisms for incorporating sustainability into our operations

For close to 50 years, Hydro-Québec has been implementing structures, policies, directives and other guidelines to promote the inclusion of sustainability principles in its governance and operations. For instance, as far back as 1973—a good 14 years before the Brundtland report first introduced the concept of sustainable development—we were already conducting environmental impact assessments on our projects. Today, we incorporate the social, economic and environmental aspects of sustainable development into our governance through a number of mechanisms, including policies, codes, directives and processes.

Environment

Our environmental policy requires us to take the necessary measures to remain at the forefront of environmental protection. All our operations, products and services must be managed diligently and responsibly. Our projects must create value for Québec society, and they must be optimized from an environmental perspective and favorably received by communities.

Human resources

Our human resources policy aims to create a vibrant, unifying and respectful workplace that fosters skill development and retention.

Social responsibility

Our corporate responsibility is governed by a policy and a directive. These guidelines help ensure that we contribute to the economic, social and cultural vitality of the society that we belong to, while giving due consideration to the impact of our activities on society and the environment.

Indigenous relations

Our policy on Indigenous relations advocates an approach adapted to Indigenous cultural characteristics and governance structures to ensure the acceptability of our activities on their land. It focuses on building and maintaining relations based on mutual respect, partnership and the meaningful involvement of Indigenous people.

Safety and security

In matters of safety, our guidelines call for risk assessment programs that take into account threats, vulnerabilities and existing measures to protect individuals, secure assets and preserve revenue. The results are monitored continuously.

Ethics

Ethical behavior is governed by three codes: the Code of Ethics and Rules of Professional Conduct for Directors, Executives and Controllers of Hydro-Québec and its wholly-owned subsidiaries, the Employee Code of Conduct, and the Supplier Code of Conduct. We have also adopted a procedure for responding to allegations concerning wrongdoings and inappropriate situations (in French only).

Act to facilitate the disclosure of wrongdoings relating to public bodies

Several years ago, to promote ethical behavior, Hydro-Québec adopted a procedure for handling allegations of wrongdoing. Any person (employee, supplier, contractor, etc.) who has witnessed or been informed of a wrongdoing or inappropriate situation may report it by calling the ethics hotline at 1 866 384-4783. Created by Hydro-Québec, the hotline is available 24/7 and ensures full confidentiality and anonymity. The steps for responding to such allegations are described in a procedure (in French only).

Information on disclosures made in 2020

Access to information and protection of privacy

Hydro-Québec posts information whose publication is prescribed by the *Regulation respecting the distribution of information and the protection of personal information* on its website, where it can be easily accessed by the public. Under the guidance of the Tactical Committee on the Governance of Corporate Data and Technologies, employees are informed of the principles governing the protection of personal information through internal communications and training activities, as well as in the context of specific cases.

In accordance with the *Act respecting Access to documents held by public bodies and the Protection of personal information,* we processed 455 access-to-information requests concerning administrative documents or personal information, compared to 509 in 2019. Of those 455 requests, 179 were granted in full, 192 were granted in part, and 41 were denied, most often because releasing the documents in question would pose commercial or security risks for Hydro-Québec or because the content of the documents concerned third-party confidential information. We were unable to act on the remaining 43 requests either because we did not have the documents, the request was withdrawn or the information concerned another public body. The average request-processing time was 26 days.
In 2020, we also handled four cases involving the loss or theft of customers' personal information. In every case, all due steps were taken to ensure that it did not happen again.

455

Access-to-information requests

Award

Integrating sustainability into the investment practices of Hydro-Québec's pension fund

Hydro-Québec offers its employees a defined-benefit pension plan. The pension plan is a fully funded contributory plan that provides retirement benefits based on a number of specific factors.

In keeping with our aim of aligning our sustainability goals with our investment strategies, we adopted a comprehensive responsible investment strategy in 2018. That has led to a number of structuring initiatives, including the following:

- Development of a responsible investment policy;
- Creation of a shareholder engagement program;
- Endorsement of the principles for responsible investment (PRI) established by the UN in 2006.

In 2020, the responsible investment policy was merged with the policy on managing pension fund investments. In regard to shareholder engagement, discussions were held with two thirds of the 50 Canadian and U.S. companies in question. In terms of voting results, the administrators of Hydro-Québec's Pension Plan voted in favor of 63% of shareholder proposals concerning environmental, social and governance (ESG) matters. Finally, Hydro-Québec's pension fund is one of the first corporate pension funds in Canada to sign on to the PRI.

IREQ turns 50 – From extra-high-voltage power transmission to the energy transition

50 years of daring and innovation

The history of the Institut de recherche d'Hydro-Québec (IREQ) began with the development of 735-kV transmission. After achieving this technological breakthrough in 1965, however, Hydro-Québec was forced to turn to foreign laboratories to perfect the new technology. It was not until 1970 that Hydro-Québec became equipped with its own lab to carry out experiments. These facilities in Varennes were inaugurated by Premier Robert Bourassa in September 29 of that year.

IREQ comprises the Hydro-Québec research center (CRHQ) in Varennes, the energy technologies laboratory (LTE) in Shawinigan and the Center of Excellence in Transportation Electrification and Energy Storage (CEETSE), in both Varennes and Shawinigan. IREQ develops cutting-edges technologies and applications to help Hydro-Québec meet the challenges of the energy transition. Hydro-Québec's innovation efforts are guided by its Technology Vision 2035, developed in cooperation with its major structural units. Efficient electrification and decarbonization of markets, decentralization and integration of renewables, power grid interactivity, major equipment diagnostics and prognostics, integration of digital technologies and next-generation assets, automation and artificial intelligence are just some of the many goals pursued by the research institute's teams.

New IREQ website (W)

1970s | 1980s | 1990s | 2000s | 2010s | 2020 and on...

Technological innovation

When it comes to integrating sustainability principles into our operations, technological innovation is a remarkable tool that can take us beyond what we can achieve through management guidelines alone. Whether it's adapting to climate change, decarbonizing the economy, increasing energy efficiency or protecting biodiversity, our ability to innovate allows us to sustainably support Québec's social and economic development.

From electrification to energy storage, electric mobility, decentralized energy resources, smart homes, connected technologies, smart grids and cutting-edge simulators, our teams research, develop and market state-of-the-art technologies and applications in partnership with some of the world's leading companies.

We work in partnership with Québec universities, which benefit from research contracts and funding for numerous research chairs. For example, in conjunction with Polytechnique Montréal, government organizations, research organizations, educational institutions and businesses, we are working on ways to expedite the rollout of geothermal systems in Québec schools. The project's goal is to support the decarbonization of the energy supplied to commercial and institutional customers.

In the field of robotics, we have signed a collaboration agreement with an industrial partner to industrialize and commercialize our LineDrone line inspection technology.

On the hydrogen front, we are partnering with the University of South Wales on a hydrogen storage project.

Dominic Chartier, system administrator, at the CASIR high-performance computation center.

Hydro-Québec continues to be one of the Canadian electricity industry's top R&D investors. With an annual budget of $158 million, the company's research institute, IREQ, develops state-of-the-art technologies in numerous fields related to power systems and renewable energy.

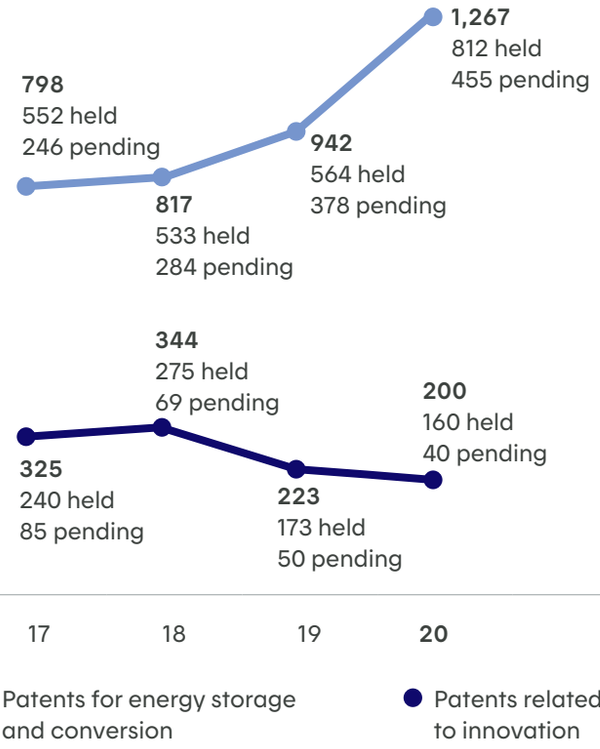
Income from our patents and commercialized innovations totaled $6.8 million in 2020.

Technological innovation at our subsidiaries

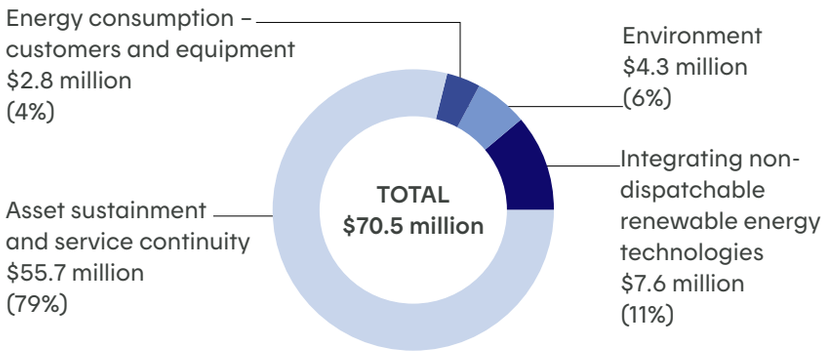
Firmly aligned with our business strategies, our subsidiaries commercialize our innovations by accelerating the development of electric mobility (Electric Circuit, AXSO and Dana-TM4), developing large-scale storage technologies (EVLO energy storage), offering our customers a range of complementary solutions (Hilo), supporting our power management objectives and improving system reliability (EVLO and Hilo).

Types of patents

Number of patents held or pending – 2020



Breakdown of IREQ innovation efforts related to sustainability[a] – 2020



a) Excludes investments in energy storage and conversion.

Strategy 2 – **Do business with responsible suppliers**

PROGRESS REPORT

Target 2.1: Identify and apply occupational health and safety requirements to risk-sensitive work categories

Indicator: Categorize suppliers based on the health and safety risk level of their activities and establish a qualification strategy (2020)

Begin integrating requirements for risk-sensitive work categories (2021–2024)

Status: Suppliers categorized based on the health and safety risk level of their activities ⊕

In recent years, we have introduced various measures to promote sustainable procurement practices. We want to do business with suppliers whose management practices are socially, economically and environmentally ethical and innovative. We also strive to choose products that are environmentally responsible while keeping a rein on procurement costs. In 2020, we prepared a financial analysis framework that takes products' total cost of ownership into account. Total cost of ownership is calculated as an asset's purchase price plus its operating costs over its entire service life, including disposal.

Ethics are central to Hydro-Québec's culture and values. Our commitment to our customers and the community is built on the principles of loyalty, integrity, respect, discretion and fairness.

We have adopted codes of conduct for directors, employees and suppliers that also apply to our wholly owned subsidiaries. To help our employees adhere to and uphold our ethical principles, we provide them with a variety of tools. The objectives of these codes also include the type of relationships that employees can or must have with suppliers.

A number of years ago, we adopted a procedure for handling allegations of wrongdoing. That procedure has been updated to meet the requirements of the *Act to facilitate the disclosure of wrongdoings relating to public bodies*.

Award

Hydro-Québec received a gold medal from EcoVadis for its sustainability performance. A number of our institutional customers are introducing responsible procurement processes and using a comprehensive sustainability management platform to evaluate their suppliers' performance. For Hydro-Québec, this gold-level honor is a wonderful opportunity to speak to our business partners about our commitment to advancing social and environmental issues, human rights and sound governance. Of the thousands of organizations evaluated, only 5% achieve gold status.

COVID-19

To ensure that our employees had all the personal protective equipment and sanitation products they needed to stay safe, we acted quickly to secure our supply chain. We also took steps to protect any suppliers' employees required to enter our facilities. Through hard work and the invaluable cooperation of our suppliers, we were able to ensure service continuity while maintaining sufficient stocks to contend with any hiccups in the supply chain.

Fighting corruption

In keeping with our firm commitment to fight corruption, we have put in place an anti-bribery management system (ABMS) and will be strengthening our security measures to meet the requirements of ISO 37001. This standard proposes ways to prevent, detect and address corruption and provides guidelines for the design, implementation, maintenance and improvement of an ABMS. In 2020, some of our employees, including managers, were trained to prevent, recognize and report incidents of corruption. In addition, managers were invited to prepare action plans to improve corruption risk management. We hope to achieve ISO 37001 certification in 2021. Our business relationships with suppliers continue to be a significant element in the fight against corruption.

The Direction adjointe Intégrité et protection des revenus conducts reliability and integrity checks on employees and goods and services suppliers. It works in partnership with police departments and law enforcement agencies and investigates incidents involving collusion, corruption, fraud and any other relevant issue with a view to ending wrongdoings and safeguarding the company's integrity and revenue. In addition, it conducts the company's due diligence reviews to preserve the integrity of our business partnerships.

PROGRESS REPORT

Target 3.1: Obtain ISO 45001:2018 health and safety certification by 2023

Indicator: Progress in the ISO 45001:2018 certification process (%)

Status: 4.8% progress in the process of ISO 45001:2018 certification

Target 3.2: Implement or showcase health and wellness initiatives

Indicator: Number of initiatives implemented or showcased

Status: 43 health and wellness initiatives implemented

Strategy 3 – **Significantly improve our occupational health and safety performance while fostering employee wellness**

In 2020, health became everyone's number-one priority. Starting on March 12, our Corporate Emergency Plan Coordination Committee (CCPUC) began closely monitoring pandemic-related developments and adjusting the company's health measures according to public health guidelines to protect the health and safety of our employees and suppliers. We even organized medical evacuation flights to bring employees infected with COVID-19 back from a remote area. After making workplace modifications, we had a number of independent on-site inspections carried out to ensure all health measures were being followed. A multidisciplinary team responsible for facility security in the absence of Hydro-Québec personnel met every day from April to June. Thanks to its efforts, we were able to share information between administrative units, identify issues promptly, and promote collaboration and a standardized response.

With the onset of the second wave in the fall, remote working was maintained wherever possible and our facilities remained relatively deserted. All year long, our health team promoted healthy ergonomic habits and provided psychological support to our employees working from home. It also kept close tabs on employees who were showing symptoms of COVID-19 or had received a positive test result.

Health and safety action plan

The priorities set out in our health and safety action plan focus on risk management, performance and leadership.

COVID-19

Our response to COVID-19 included allowing roughly 10,000 employees to work from home, as well as cancelling pay raises for managers and postponing payment of variable compensation. In addition, to help support the Québec economy, we reduced the terms of payment for suppliers.

COVID-19

Hydro-Québec charters planes and helicopters for aerial work, to take passengers to hard-to-reach locations, including utility and telecommunications towers, and to get employees to remote work locations like off-grid system sites in Nunavik. Although we charter aircraft from many airlines, the pandemic led to an increase in needs. For example, as a result of COVID-19, we had to coordinate chartering with several qualified airlines for the medical evacuations of employees working in more remote regions.

Despite the pandemic, helicopters still had to be chartered for critical missions, such as transmission line flyovers and transporting employees to conduct snow surveys as part of our spring runoff management operations.

Hydro-Québec sets strict requirements for airlines. During the pandemic, our challenge is to stay on top of the latest recommendations from public health agencies and Transport Canada so that we can keep our information and procedures up to date, share that information effectively with flight crews and passengers and provide all necessary equipment in a timely manner.

This year, we took steps to manage the company's two greatest health and safety risks: energy sources and moving vehicles. For energy sources, we want to reduce our risk tolerance, further develop our skills and simplify the rules surrounding safe practices. For moving vehicles, along with reducing the number of kilometres traveled, our main goal is to make drivers more aware of their responsibilities and their ability to take action to prevent accidents.

In 2020, with the support of our prevention teams, managers made more frequent jobsite visits to assess how the management of high-priority risks is integrated with work methods and procedures. These "safety time-outs" gave managers and employees a chance to talk about specific risks and how they can be avoided by applying safe work practices.

As part of our accident prevention efforts, we created a specialized team to support our investigations into near misses/potentially serious incidents (PSIs). Our investigation approach leverages high-quality analyses to identify the root causes of PSIs and any remedial measures required at Hydro-Québec. We also rolled out a new technology for reporting events, documenting inspections and updating the dashboards that we use to identify trends, anticipate risks and hold relevant discussions with our teams.

Our program to help prevent winter falls also bore fruit, with a year-over-year reduction of nearly 45% in slips and falls (lost time and temporary assignments) compared to the 2018–2019 season. The milder weather may also have been a factor, although it varies significantly from one region to another.

In 2020, a consistent approach to managing performance or behavioral shortcomings was introduced for all categories of risks, starting with speeding and behaviors that affect the spread of COVID-19 in the workplace.

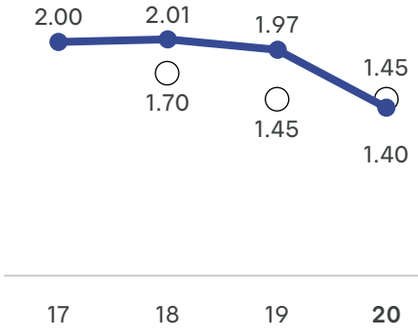
Throughout the year, employees and suppliers were reminded of the importance of remaining vigilant, adopting safe behaviors and reporting any situations that could pose a risk to the safety of persons or property. Open day and night, the Ouvrons l'œil hotline makes it possible to report such incidents promptly. In 2020, 3,716 calls were received (vs. 2,678 in 2019). In addition, employee and contractor enrollments in our occupational health and safety training activities totaled 18,029 in 2020 (26,878 in 2019). These activities included in-person training, self-training videos, hands-on training and guided readings.

In regard to psychological wellness, 2,437 new cases were opened (2,644 in 2019) under the Employee Assistance Program, a free and confidential program that is available 24/7 and helps employees resolve personal or professional issues in a timely manner.

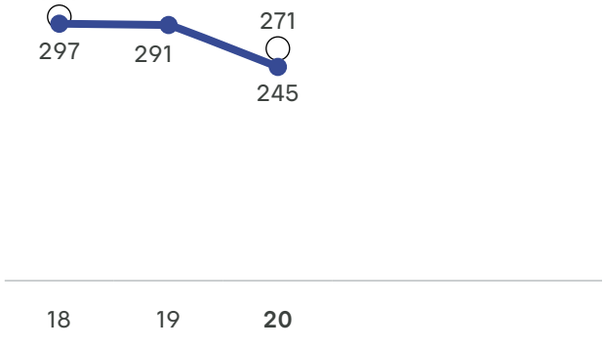
We are continuing our efforts to promote and support employees' resilience and psychological health. During the year, we created a prevention toolkit, launched a training program, extended the Employee Assistance Program to family members and carried out a mental health awareness campaign.

Various surveys conducted over the year showed that employees had several concerns related to the unusual circumstances of 2020. Isolation poses a challenge to maintaining good psychological health. Worries, upended routines, living in close quarters and a need for air and space can all cause people's lives to get out of balance, and we must remain vigilant to ensure that employees receive the support they require. We are currently developing an initiative to promote overall health and wellness.

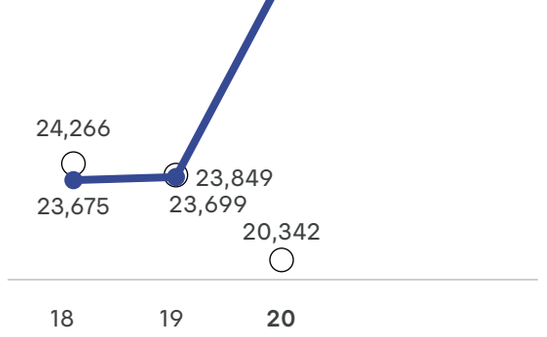
Work-related accident frequency (per 200,000 hours worked)



Near misses/potentially serious incidents (PSIs)



Field observations



PROGRESS REPORT

Target 4.1: Continue to improve equal access to employment by raising target group representation

Indicator: Percentage of target groups in our workforce

Status: 28.5% women, 1.6% Indigenous people, 1.9% ethnic minorities, 6.8% visible minorities and 0.6% people with disabilities

Target 4.2: Increase target group representation in management positions

Indicator: Percentage of target groups in management positions

Status: 26% women, 0.9% Indigenous people, 1.0% ethnic minorities, 3.5% visible minorities and 0.5% people with disabilities

Target 4.3: Implement a sustainability awareness program that promotes employee engagement

Indicator: Progress in implementing the sustainable development awareness program (%)

Status: Program implementation postponed until 2021

Target 4.4: Launch an action plan for disabled groups

Indicator: Progress in implementing the action plan for disabled groups (%)

Status: Completion of 80% of actions identified in the 2019–2020 plan

Strategy 4 – **Offer an inclusive work environment that reflects Québec's diversity and rally our employees around sustainable development**

This year, as issues of racism and exclusion were thrust into the limelight by local and international news stories, Statistics Canada published the findings of a survey in which 31.2% of respondents reported experiencing discrimination or unfair treatment in their search for employment.

Studies have also shown that certain groups, including recent immigrants, Indigenous people and groups designated as visible minorities, were particularly hard hit by the pandemic's financial repercussions.

Findings like these are forcing companies to take a second look at their business practices, governance and corporate culture. Hydro-Québec is no exception. On the contrary, as a government corporation, we have a responsibility to set an example in this regard by adhering to the highest standards. At this time, Hydro-Québec is not representative of Québec society in terms of diversity and inclusion. We must rectify this situation and bridge the gaps if we are to live up to our company values. Diversity is an invaluable resource that we cannot afford to miss out on.

IREQ'S team studying energy resources and climate risks. Front row: Dominique Tapsoba, Isabelle Chartier and Marie Minville. Back row: Luc Perreault and Frédéric Guay.

Nancy Tansery, distribution line worker, during work to convert Bélanger substation from 12 kV to 25 kV.

A more inclusive work environment

As part of our efforts to implement more inclusive practices, we have trained 90% of our managers on the potential repercussions of unconscious bias.

In 2021, employees will have the opportunity to take part in open, objective discussions, where they can voice discomforts, ask questions and share recommendations with a view to making our workplace still more inclusive.

A greater presence for underrepresented groups

In 2009, Hydro-Québec launched its employment equity program to increase the presence of certain groups that were underrepresented in its workforce. These groups are women, Indigenous people, people with disabilities, ethnic minorities and visible minorities. Their numbers within the company are rising, especially in urban centers, but there is still a great deal to be done.

In regard to the representation of employees from ethnic and visible minorities in the greater Montréal area, we are proud of the progress achieved in the last five years. Their numbers have climbed from 10.3% to 16% of the workforce, and we are continuing our efforts. The challenge is greater in outlying regions, where there are fewer members of these groups. The nature of Hydro-Québec jobs in those regions also poses a substantial challenge. Employees with disabilities are also significantly underrepresented across the organization.

To better identify and support talent from culturally diverse backgrounds and other minority groups, our human resources partners have been trained on the importance of maintaining an objective stance during evaluations and recruiting events for candidates from underrepresented groups so that they can avoid bias-related pitfalls. As a result of this training, they are better equipped to support managers in their tasks.

In 2020, we maintained our programs for newcomers and students with disabilities. Our mentorship program for recent immigrants resulted in 56 matches, for a total of 89 since the program's inception.

The year was also marked by efforts to make inclusion and equity part of our corporate culture, in keeping with our aim to engage all our 20,000 employees in this movement toward greater openness.

Hydro-Québec statement on diversity (in French only) Ⓦ

L'effet A

Designed to encourage women to get into management or climb the corporate ladder, L'effet A is both a professional development program and a means of fostering solidarity and mutual aid. Since its creation in 2015, over 2,800 women from dozens of Québec businesses have taken part in the program, including 168 women from Hydro-Québec in seven cohorts. To date, 49% of the graduates have been promoted, showing that the program is successful in helping women get ahead.

COVID-19

The pandemic has transformed the way we work and collaborate with colleagues. Telework has become the new reality for some 10,000 Hydro-Quebecers. Half of our employees have been working from home full time for a year. Returning to the office will be a major change for them, and Hydro-Québec intends to do what it can to help ease the transition.

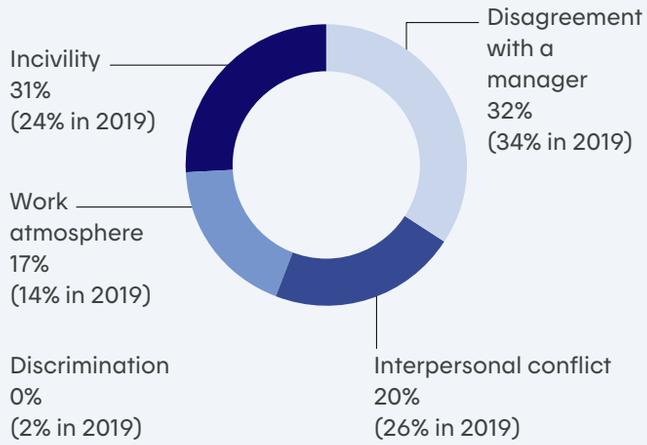
We drew on this experience to develop a new telecommuting program to be rolled out as soon as circumstances allow. Employees whose duties lend themselves to working from home and who want to do so will be able to work remotely two to three days a week. A survey has shown that 94% of employees are in favor of the idea. Improved flexibility and work-life balance, a better employee experience and alignment with Hydro-Québec's real estate strategy are among the program's many objectives.
To support employees through this major transition, our strategy will call for a gradual increase in days at the office, with voluntary participation in the early stages.

Our zero-tolerance policy

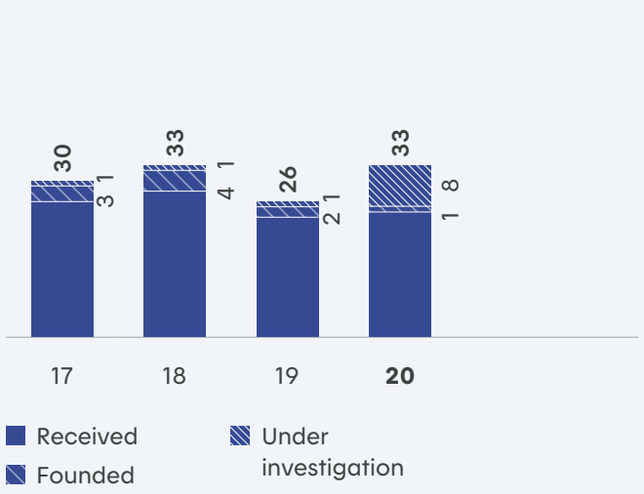
Hydro-Québec seeks to encourage and maintain a healthy, engaging work environment and does not tolerate any discrimination or harassment.

Under our zero-tolerance policy, anyone who experiences or witnesses discrimination or harassment can report it or file a complaint in complete confidentiality. Once the report or complaint has been reviewed, and irrespective of the outcome of that review, an action plan is implemented to resolve the conflict and improve the work environment.

Types of reports received – 2020



Change in the number of complaints, by status (number)



The number of complaints is up, from 23 in 2019 to 33 in 2020.

Change in the number of cases identified (number)

The number of cases identified is up, from 93 in 2019 to 111 in 2020.

HYDRO-QUEBECERS IN CONVERSATION

Hydro-Québec has everything to gain by ensuring its workforce is as diverse as possible. More diversity means access to a wider range of backgrounds, experiences and perspectives. In the process, we become more aware of our unconscious biases and their impact on our decisions and behaviors, and we can try to deconstruct them, one by one.

Menelika Bekolo Mekomba, engineer

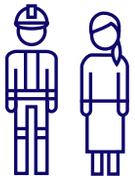
Anne-Marie Thibault, advisor in equal opportunity, diversity and inclusion

Full conversation ⊕

A sustainably engaged workforce

Every year, Hydro-Québec measures its employee engagement index by means of a survey that gives employees the opportunity to express their views on various aspects of their work, their teams, their managers and the company in general. Following a 2018 revamp, the survey is now called *Notre énergie, notre engagement* and its findings are determined according to new parameters.

In 2020, our employee engagement activities focused on employee orientation and integration, continuous performance tracking and professional development.



87%

Sustainable employee engagement index ⊕

Representation of target groups (%)

	2017	2018	2019	2020
Women	28.9	28.8	29.2	28.5
Indigenous people	1.5	1.6	1.6	1.6
Ethnic minorities	1.5	1.6	1.9	1.9
Visible minorities	4.5	5.1	6.3	6.8
People with disabilities	0.6	0.6	0.6	0.6

An employee may be included in more than one category.

Every variable evaluated in our annual survey was up from the previous year. Respondents considered competence development, relations with co-workers and support from managers to be Hydro-Québec's strong points. However, further work is required on determining project priorities, listening to employees and involving employees in the change process. In the years ahead, we plan to consult with employees more often so that we can fine-tune our approach and respond more quickly.

In 2020, our overall sustainable employee engagement index was 87%. This result exceeds the global standard for the energy industry and public utilities. The three components of sustainable engagement are being engaged (connection to the organization and willingness to put in extra effort), being enabled (a workplace that fosters productivity and performance) and feeling energized (employees' physical, interpersonal and emotional well-being at work). Employee pride in the company is the aspect that scores highest. The survey response rate was 82% this year, the same as last year.

Building on the foundations laid in recent years in terms of employee experience, we are creating more opportunities for our employees to take a central role in our actions and decisions.

Our employees give back

To maximize the value of Hydro-Québec's contributions to society, we encourage our employees to share their know-how and expertise. We also acknowledge their efforts to promote sustainability in the company and the community. Many of our employees and managers devote personal time to volunteer work, for example by serving as board members, speaking at schools or taking part in community activities. In these unprecedented times, many employee initiatives focused on the pandemic: some employees made face shields for healthcare workers, while others sewed face coverings. Several Hydro-Québec nurses also helped out at the CISSS de la Côte-Nord.

The 2020 Hydro-Québec employees' and pensioners' Centraide campaign raised a total of $7.41 million. This sum includes $3.4 million in donations from employees and pensioners, an amount matched by Hydro-Québec. The campaign's contribution has increased for six years in a row.

Employee sustainable development projects

In 2020, Hydro-Québec launched an intranet site called *Contribuons au développement durable* [Let's contribute to sustainable development]. The site aims to inspire, support and connect employees who are involved in a sustainable development project or initiative. In addition to providing training activities, videos and lectures on sustainability, the site encourages employees to adopt a responsible lifestyle using simple and effective strategies that they can apply in their day-to-day lives, both at work and at home. Finally, a personal experiences section gives participants an opportunity to talk about what they are doing and maybe even inspire others to get involved.

Awards

Community

Community

Contribute to Québec's social and economic development while improving the social acceptability of our projects and operations

Quebecers are both owners and customers of Hydro-Québec. Most of them need only step outside to set eyes on electrical facilities that belong to them. This really goes to show the intrinsic role Hydro-Québec plays in people's daily lives. Hydro-Québec maintains close relations with Québec society as a whole and with each of its communities. By listening to Quebecers' expectations, Hydro-Québec is able to achieve a balance between its roles of investor, supplier, neighbor and responsible corporate citizen.

Our strategies

- Foster Québec's development as a society through our financial contribution
- Build and operate sustainable, resilient infrastructure while adapting our activities to climate change
- Generate more sustainable value in the community
- Take steps to include Indigenous peoples and encourage their input into our development

In this section

Stakeholders

Materiality analysis aspects

Strategy 5 – **Foster Québec's development as a society through our financial contribution**

PROGRESS REPORT

Target 5.1: Contribute $23.4 billion to Québec's gross domestic product (GDP) by 2024

Indicator: Amount contributed to Québec's GDP

Status: $20.7 billion contributed to Québec's GDP (2019: $20.7 billion)[a]

a) Preliminary data based on the most recent information available when this report was published.

Hydro-Québec's operations support thousands of jobs and stimulate economic activity, to varying degrees, in all Québec regions. They contribute approximately $20.7 billion to Québec's gross domestic product (GDP), an economic indicator that measures wealth creation but does not adequately quantify all positive sustainability effects, such as the company's social engagement in the community.

Direct financial contributions

In 2020, we posted net income of $2,303 million, allowing us to pay our shareholder, the Québec government, a dividend of $1,727 million. Our contribution to the Québec government's revenue was $3.6 billion.

Our net electricity exports reached a volume of 31.3 TWh and contributed $537 million to net income. In terms of percentages, they represented 15% of our total sales volume and 23% of our net income. The public health crisis led to lower demand and lower prices on external markets, mainly in the second quarter. That said, thanks to an effective sales strategy, the high availability rate of generating and transmission facilities, and abundant runoff, net electricity exports nonetheless exceeded the 30-TWh mark for a fifth consecutive year.

Total electricity sales: $13.3 billion

Direct financial contributions in 2020

- Dividend declared: $1.7 billion ($2.2 billion in 2019)
- Municipal and school taxes: $40 million ($40 million in 2019)
- Public utilities tax: $304 million ($299 million in 2019)
- Water-power royalties: $710 million ($714 million in 2019)
- Donations and sponsorships: $19.3 million ($18.9 million in 2019)
- Integrated Enhancement Program: $5.5 million ($1.1 million in 2019)

SUPPORTING AND PROMOTING ARTISTS

In 2020, Hydro-Québec supported the work of Raphaëlle de Groot. Born in Montréal in 1974, de Groot is considered one of the most influential artists of her generation. Using a creative process based on dialogue and participation, de Groot creates spaces of expression for citizens, and for less visible communities in particular (nuns, caregivers, etc.). Entitled* Voix de l'archipel, *the work acquired by Hydro-Québec is an exclusive ensemble of five elements that were part of an artistic project carried out in Minganie, in the Côte-Nord region. The work will be displayed at the Baie-Comeau administrative center in 2021.

Read more

Art collection

Hydro-Québec has one of the oldest and largest corporate art collections in Québec. Consisting mainly of two-dimensional works, such as paintings, drawings, prints, photographs and videos, the collection is public and the works are displayed in our offices, conference rooms and the lobbies of some of our buildings. In addition to showcasing artists, the collection provides a more appealing and interesting work environment for our employees. It also helps preserve Québec's artistic heritage.

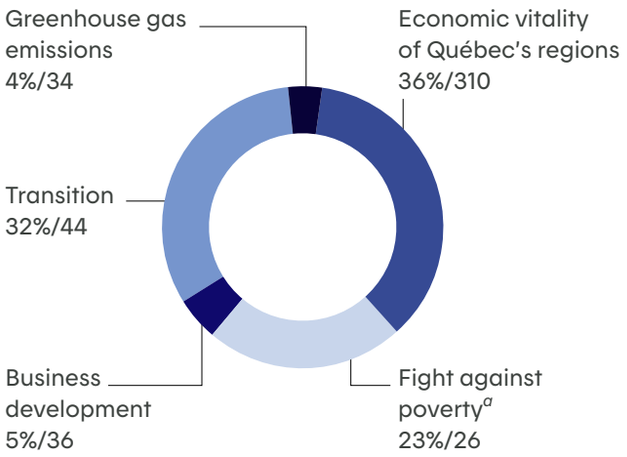
Raphaëlle de Groot
« L'étrange » et le territoire
["The strange" and the territory]
Video performance
Photographs from the shoot of the Subsistences – Inniun, 2017 project
Inkjet print on paper, 2020
78 x 54 cm
Photo: Léo Harvey-Côté

Donations and sponsorships

Hydro-Québec supports Québec's cultural, social and economic life with donations and sponsorships from a budget provided for in our business plan. In 2020, despite the postponement or cancellation of various events due to the pandemic, we maintained our overall contributions, donating $19.3 million (including the $3.6-million contribution to the Centraide campaign) to more than 450 organizations in all regions of Québec. The donations and sponsorships granted are distributed according to the priority issues set out in our Social Responsibility Directive (GHG emissions, economic vitality of Québec's regions and the fight against poverty). In addition to these three issues, our contributions included amounts related to business development, as well as sums that are part of multiyear commitments made before the directive was adopted and which support organizations that are no longer eligible (health, education, sports and culture). These sums are recorded under the Transition category and will be phased out by 2026.

Details on contributions granted in 2020 (W)

Breakdown of donation and sponsorship contributions by issue – 2020 (%/number of beneficiary organizations)



a) Contributions for the fight against poverty include the $3,641,504 donated to the Centraide campaign, as well as an exceptional contribution of $300,000 for the pandemic.

Overall total and sum of subtotals may differ due to rounding.

Contributions, commitments, research chair funding and research contracts ($'000)[a]

Educational institution or research group	2017	2018	2019	2020
Université de Montréal	825	840	825	825
HEC Montréal	40	72	25	55
Polytechnique Montréal	345	380	147	720
Université du Québec en Abitibi-Témiscamingue	15	15	15	0
Université du Québec à Chicoutimi	60	297	211	211
Université du Québec à Montréal	695	695	378	880
Université du Québec à Rimouski	210	200	200	0
Université du Québec à Trois-Rivières	174	344	385	360
Université du Québec en Outaouais	0	0	0	30
École de technologie supérieure	169	174	228	239
McGill University	710	900	757	600
Concordia University	795	819	586	579
Université Laval	1,187	1,322	1,281	1,175
Université de Sherbrooke	481	555	505	545
Bishop's University	0	0	0	32
Ouranos, Cirano and Institute of Electrical Power Engineering	1,333	1,024	1,138	1,203
Institutions outside Québec	27	207	112	0
TOTAL	**7,067**	**7,844**	**6,825**	**7,454**

a) Including amounts recorded as donations and sponsorships: $2.9 million in 2017, $3.1 million in 2018, $3.2 million in 2019 and $2.9 million in 2020.

Integrated Enhancement Program (IEP)

Since 1985, as part of its power line or substation projects, Hydro-Québec has been making contributions to municipalities and other eligible organizations to co-finance initiatives that have undergone a consultation process. The contribution is based on the distance in kilometres that a new line travels or the area occupied by a new substation. In 2020, we granted a total of $5.5 million for 28 initiatives.
Find out more about the IEP. (W)

Construction of boardwalks and an observation tower in the Ruisseau-de-Feu conservation park in Terrebonne, as part of the Chamouchouane–Bout-de-l'Île project

Funding of $551,800 was provided for this initiative in 2020. The Ruisseau-de-Feu conservation park is an important wildlife area. It features many species of fish and key spawning grounds for northern pike and yellow perch, as well as some 60 bird species, three of which (short-eared owl, Nelson's sparrow and peregrine falcon) are on the list of species likely to be designated as threatened or vulnerable.

The Ruisseau de Feu is a stream that flows in the vicinity of the cities of Terrebonne and Charlemagne, at the confluence of the Des Prairies, Mille Îles and L'Assomption rivers, which empty into the Fleuve Saint-Laurent (St. Lawrence River). The stream's watershed covers 1,000 ha; downstream, it crosses a large floodplain bordering the Rivière des Prairies.

Chamouchouane–Bout-de-l'Île project – IEP-funded projects on an interactive map

The sustainable development projects carried out through the IEP can now be viewed on a large interactive map, which includes photos, testimonials and geographic locations.
Explore the map to see the projects. (W)

Local procurement

Wherever possible, and in compliance with established procurement rules, Hydro-Québec aims to favor local procurement that promotes regional economic spinoffs. Local suppliers, mainly SMEs, are an integral part of Québec's regional economies. With their well-rooted presence in the areas they serve, these suppliers have the flexibility required to fulfill many of our procurement needs. In addition, Hydro-Québec wishes to implement new supplier selection criteria and contractual requirements to maximize regional businesses' contribution to certain major projects.

Indirect economic spinoffs

Through its business strategies and operations, Hydro-Québec plays a major role in stimulating Québec's economy. Our purchases of goods and services and our rate incentives contribute to economic vitality and job creation in many regions.

In 2020, our purchases of goods and services from suppliers with an establishment in Québec reached $2,734 million out of total purchases of $3,022 million.

Funding and financial commitments – Integrated Enhancement Program

	2017	2018	2019	2020
Number of initiatives	27	22	15	28
Hydro-Québec funding ($'000)	4,231.0	3,349.5	1,075.6	5,529.1
Community funding ($'000)	23,641.7	8,437.8	508.8	9,871.6
Project value ($'000)	27,872.7	11,787.3	1,584.4	15,400.8

However, even when goods are distributed by Québec companies, many of them are manufactured outside Québec. We are working on ways and mechanisms to increase our purchases of Québec-made goods.

Whenever possible, we make it a point to encourage social economy enterprises, whose activities include social, cultural or environmental objectives. Operating in close to 20 sectors of the economy, these enterprises employ and promote the social integration of individuals who are isolated from the labor market, including new immigrants and people with functional limitations.

In 2020, we awarded these enterprises contracts valued at $22.8 million, accounting for 0.8% of the total value of our contracts. We also worked with the Espace québécois de concertation sur les pratiques d'approvisionnement responsables to develop a strategy for increasing our purchases from social economy enterprises in the coming years.

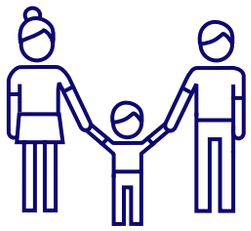
For many years, Hydro-Québec has used rate incentives to attract investment in Québec. The practice has helped make Québec a global aluminum production hub. More recently, we turned our focus to data center operators, a booming industry that is seeking clean, renewable energy sources.

In the context of a post-pandemic economic recovery and the government's desire for greater food self-sufficiency, we proposed a new rate incentive option to the Régie de l'énergie to stimulate the greenhouse industry. With its advantageous price of 5.59¢/kWh for photosynthesis lighting and for heating of spaces used to raise crops, the measure would allow a greater number of Québec greenhouse growers to save up to 40% on their energy costs and significantly boost their yields over the next few years.

COVID-19

During this year of the pandemic, we purchased a large number of procedure masks, but much less paper and far fewer ink cartridges because of the increase in remote working. In early spring, most of our procedure masks came from China, but we were able to source a third of our purchases from a Québec-based company starting in April.

We donated 125,000 face masks to the Québec government, $75,000 to the Red Cross in Québec for its COVID-19 fund and $300,000 to Centraide of Greater Montréal's COVID-19 Emergency Fund. This donation was in addition to our regular contribution to Centraide' s annual campaign.



$33 million

Community investments

90%

Procurement of goods and services from Québec-based companies

Value of contracts awarded to social economy enterprises, by goods and services category

PROGRESS REPORT

Target 6.1: Implement a climate change adaptation plan by 2021

Indicator: Progress on producing the climate change adaptation plan (%)

Status: Completion of 66% of the climate change adaptation plan ⊕

Indicator: Progress on key actions identified in the plan (%)

Status: N/A

Target 6.2: Expand the integration of sustainability principles in infrastructure projects

Indicator: Number of projects requiring government approval for which planning and construction stages include a comprehensive sustainability assessment

Status: Two solar farms (Varennes and La Prairie) ⊕

Target 6.3: Obtain or maintain BOMA BEST certification for targeted administrative buildings and rented office premises of over 1,000 m² in Montréal and Québec City

Indicator: Number of BOMA BEST-certified buildings and level of certification

Status: 100% BOMA BEST certification for the 21 targeted buildings and office spaces ⊕

Strategy 6 – **Build and operate sustainable, resilient infrastructure while adapting our activities to climate change**

Hydro-Québec's system includes 61 hydroelectric generating stations, 24 thermal generating stations, 34,826 km of transmission lines, 538 transformer substations and 226,752 km of distribution lines. In most of the regions we serve, electricity is distributed through an overhead system supported by nearly 2.6 million poles, 99% of which are made of wood.

All this infrastructure is critical to achieving our mission and is meticulously maintained. During our strategic planning exercise, we thoroughly analyze the need for new infrastructure and for investment in maintenance and repair, so that we can continue to ensure power reliability and service continuity.

To measure the quality of electricity service, we use the system average interruption duration index (SAIDI), which reflects the average service interruption time per customer over the course of a year. Some scheduled interruptions are required for system maintenance; unscheduled outages are caused by bad weather, invasive vegetation (approximately 40% of outages) or equipment failure.

Transmission lines near Hertel substation in La Prairie, in the Montérégie region.

Distribution line in Montérégie during an ice storm.

256 min/customer

System average interruption duration index (SAIDI) –Distribution system ⊕

New facilities under construction

Each year, we carry out numerous projects designed to maintain the system and ensure its long-term operability or increase its capacity.

Teams plan these projects based on medium and long-term needs, while taking into account our specific geography—a vast territory to supply with power—and the Québec climate.

Romaine complex

In March 2020, the pandemic brought work to a complete halt at the Romaine-4 jobsite. Priority work for impounding the reservoir resumed in May, allowing filling to begin in June, as scheduled. The reservoir's maximum operating level will be reached in the summer of 2021. Concreting of the powerhouse continued and the construction of the dam was completed. Commissioning of the Romaine-4 powerhouse has been postponed to 2022.

Appalaches-Maine interconnection line

This project involves the construction of a direct-current transmission line of approximately 100 kilometres between Appalaches substation, near Thetford Mines, and a crossing point at the Québec-Maine border, in the municipality of Frontenac. In addition, a converter will be built to transform alternating current into direct current, and the thermal capacity of two 735-kV lines will be increased. The new line will deliver 1,200 MW of clean power to Massachusetts and Maine.

We designed the new line using criteria that takes climate change into account. The features we adopted include the ability to operate the line at higher temperatures, a 150-year return period for wind and ice storms, and anti-cascading towers. In the Appalaches–Maine corridor, some of the towers on existing lines will be reinforced to achieve a reliability level equal to that of the interconnection line.

Work began in Maine upon receipt of the necessary approvals in the United States. Our representatives will continue their work to promote the benefits of the project to Maine residents. Commissioning is scheduled for the spring of 2023.

Progress of main projects under way

- Rapide-Blanc generating station
- Chute-Bell development
- Robert-Bourassa generating station
- Rehabilitation of the bridges and spillways at Rapide-2 and Rapide-7

- Achigan substation
- Saint-Jean substation

Exclusive web content

- Planning transmission projects at Hydro-Québec
- Projects and construction work

COVID-19

To prevent the loss of perishable food at the Mista workcamp when the Romaine-4 jobsite was put on hold, we worked with the Centre d'action bénévole de la Minganie, the Centre intégré de santé et de services sociaux (CISSS) de la Côte-Nord (Minganie), the Centre de services scolaires de la Moyenne-Côte-Nord and the regional county municipality (MRC) of Minganie to collect and distribute perishable items in record time. The food was donated to 400 families in the MRC of Minganie, from Sheldrake to Natashquan (including the municipality of L'Île-d'Anticosti and the Innu communities of Ekuanitshit and Nutashkuan).

In spring 2020, the Nunavik Regional Board of Health and Social Services (NRBHSS) set up temporary triage and screening tents in each of the 14 communities in the region. At the request of the NRBHSS, we supplied the temporary facilities with power on an emergency basis. Two line workers were dispatched to accompany the NRBHSS team on its rounds in the communities.

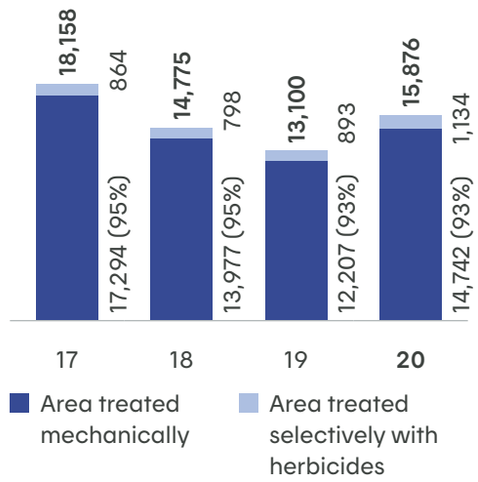
Vegetation control

Vegetation that is incompatible with the power system can cause power outages. That's why our maintenance work includes vegetation control programs along distribution lines and in transmission line rights-of-way.

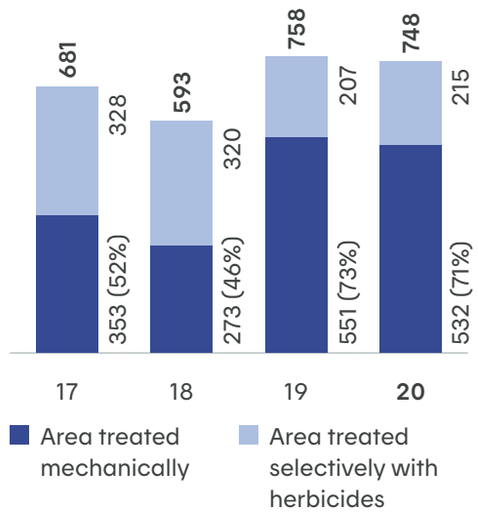
In 2020, we ramped up our vegetation control efforts near distribution lines through an investment of $100.1 million ($84.3 million in 2019) and by increasing the proportion of work done using mechanized methods. We also provided support to contractors to facilitate their daily decision-making and promote the application of environmental best practices. No herbicides were used to control vegetation along the distribution system.

For vegetation control in transmission line rights-of-way, mechanization was used in part to offset the labor shortage. However, close attention was paid to sensitive environments, such as wetlands, all of which were protected.

Vegetation control along transmission lines (ha)



Vegetation control on dikes and dams (ha)



Our specialists ensured that our measures effectively balanced environmental and forestry-related needs. The proportion of areas treated with a selective herbicide remains at 7%, the same as last year.

Adaptation to climate change

Despite global efforts to reduce GHG emissions, the impacts of climate change will persist, and we must adapt to them. According to the Canadian Institute for Climate Choices, combined losses per weather-related disaster have ballooned, rising in Canada from an average of $8.3 million per event in the 1970s to an average of $112 million since 2010.

In 2020, we completed the first phase of our vulnerability assessment using a methodology tailored to the structure and diversity of our assets and operations. We also created an atlas of climate indicators that will compile temperature and precipitation data according to international standards, allowing us to project our facilities into a future climate. For more information on the topic of climate-change adaptation, see our reporting in compliance with the recommendations of the Task Force on Climate-Related Financial Disclosures (see p. 82).

Digital transformation

At the heart of power system optimization and company performance are information and communications technologies (ICTs). Big data analytics, cloud computing, mobile apps, the Internet of Things, automation and other technologies help us achieve our business goals.

Through system modernization, equipment connectivity, artificial intelligence and predictive analytics for system maintenance, we can also better manage the service life of our aging assets.

However, digital transformation comes with rapidly evolving threats. In 2020, there were several major IT outages in Québec. After the ransomware attack on the Société de transport de Montréal and the Sûreté du Québec, the healthcare system was targeted by hackers. Hydro-Québec continues to make every effort to avoid this type of situation, and to have the means to react diligently should one arise.

Artificial intelligence, machine learning and threat information will be key tools for assessing power system cybersecurity through the processing of data from various ICT-related sources. Thanks to a combination of data analysis and threat information, we can quickly detect malicious activity and respond to incidents that compromise the integrity, availability or confidentiality of data or systems.

In 2020, as a result of the actions of an individual who is no longer employed by Hydro-Québec, the personal information (birth dates, home addresses and telephone numbers) of almost 300 employees of our suppliers was disclosed on a website. No Hydro-Québec customers were affected. We worked with relevant authorities to ensure that appropriate actions were taken. Those affected were contacted personally, and we are committed to supporting them.

Exclusive web content

- GHG emissions and Hydro-Québec electricity
- Greenhouse gas emissions and reservoirs
- Life cycle assessment at Hydro-Québec

PROGRESS REPORT

Target 7.1: Develop indicators and optimize certain programs to maximize their social and economic benefits for the community

Indicator: Number of key programs optimized

Status: 25% progress for the two targeted programs (Integrated Enhancement Program and Social Responsibility Directive)

Strategy 7 – **Generate more sustainable value in the community**

Hydro-Québec was created to provide quality electricity service at a uniform price across Québec. This goal is at the core of the sustainable value that we bring to Québec's various communities. Our electricity rates are not only uniform, they're also very affordable. Thanks to the low-cost heritage pool of electricity and the government's desire to avoid substantial rate increases, Québec's residential rates are among the lowest in North America.

As of April 1, 2020, residential customers in Québec paid an average of 7.30¢/kWh for a monthly consumption of 1,000 kWh, a rate that includes generation, transmission and distribution costs. By comparison, the average residential rate in Toronto was 11.10¢/kWh; New York City, 33.68¢/kWh; and Boston, 34.28¢/kWh.

What's more, in the context of the fight against climate change, our electricity's very low carbon footprint is a major asset for the competitiveness of Québec companies and helps attract to the province new businesses looking to reduce their impact on the environment.

Comparison of electricity prices in major North American cities

COVID-19

During this exceptional year, we worked especially hard to support our customers, suppliers and employees, as well as the entire community.

In the spring, we adopted several measures to ease the burden on our customers: administration fees for unpaid bills were suspended, as were collection notices and service interruptions. We also relaxed certain rules so that payment arrangements could be tailored to customers' needs.

Electricity rates

Hydro-Québec is required to charge the same electricity rates throughout Québec, except in the communities served by an off-grid system north of the 53rd parallel (apart from Schefferville). Rates are based on the consumption profile of the different customer categories.

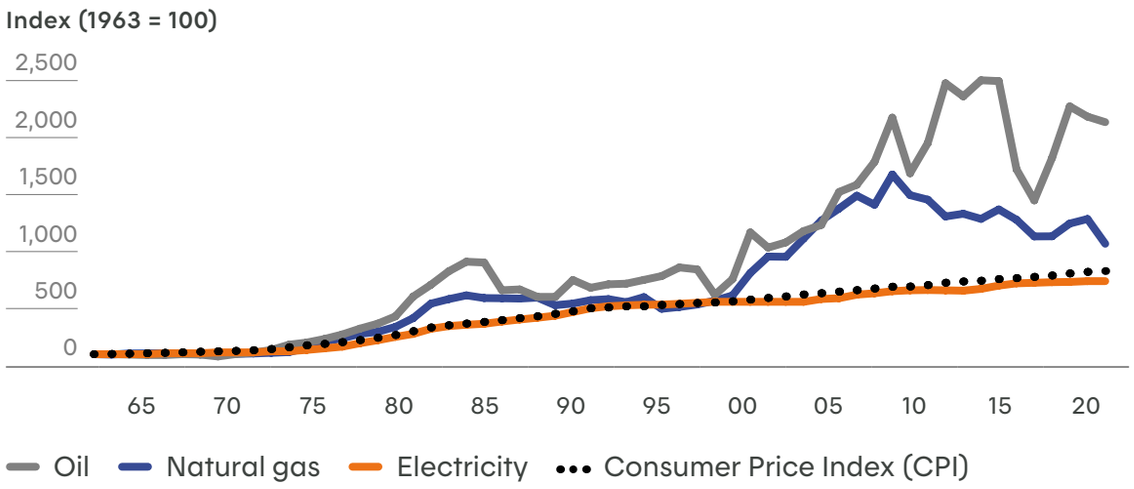
Rates will increase by 1.3% on April 1, 2021, for all our customers, except for large-power industrial customers (Rate L), whose rates will increase by 0.85%. The 1.3% increase is based on the change in the average Québec Consumer Price Index between September 30, 2019, and September 30, 2020. For the past 60 years, the price of electricity has generally stayed in line with inflation.

Under *An Act to simplify the process for establishing electricity distribution rates*, we refunded $521 million to our customers in 2020. A total of $458 million was credited to some 4.1 million residential and business customers, while $63 million was distributed among 320 major customers. The Act also kept 2020 electricity rates at their 2019 level.

Cross-subsidization consists in charging one or more customer categories higher rates than the service cost in order to be able to offer lower rates to one or more other customer categories. Residential customers benefit from cross-subsidization, paying only about 88% of the service cost. The difference in service cost is covered by the other rate categories.

While electricity is inexpensive in Québec, it still represents a significant outlay for some households. For many years, we have been making it easier for low-income households to stay on top of their electricity bills. Payment arrangements were signed with residential customers to facilitate settlement of 224,157 cases representing $355.4 million gross, including 36,020 arrangements with low-income customers for $132.2 million gross. Of these, 22,304 arrangements totaling $49.6 million provide assistance for payment of arrears and, if necessary, partial payment for current electricity use.

Inflation and energy prices in Québec – 1963–2020



Cross-subsidization index per customer category – 2019

Customer category	Cross-subsidization index
Residential and farm customers	88.0
Rate G customers (small power customers, such as convenience stores and hair salons)	117.6
Rate M customers (medium-power customers, such as SMEs, small industrial companies and shopping centers)	125.6
Rate LG customers (large-power customers not engaged in an industrial activity, such as hospitals, universities and office buildings)	99.2
Large industrial companies L (large-power customers engaged in an industrial activity)	104.9

HYDRO-QUÉBECERS IN CONVERSATION

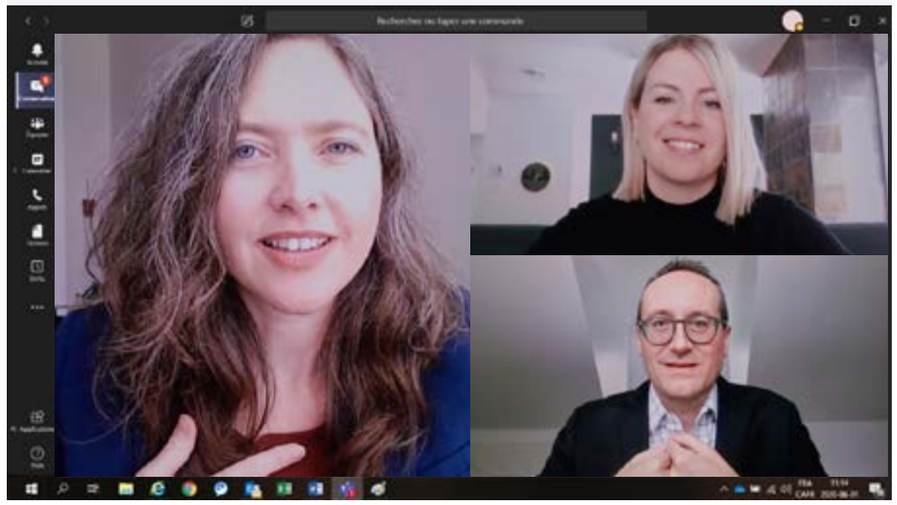
Hydro-Québec is present in every community, every business and every home in Québec. That's quite remarkable! To Quebecers, we are an electricity supplier, a project proponent, a sometimes-troublesome neighbor or a development partner. Part of my job is to give the company a human face through my presence in the community. There are over a hundred of us, from different teams, doing this important work!

Janis Crawford, strategic management advisor

Stéphanie Gosselin, community relations advisor

Alain Paquette, communications and communities advisor

Full conversation ⊕



Hydro-Québec, a major player in improving access to high-speed Internet

In 2016, the Québec government embarked on a program to bring high-speed Internet to all Québec regions, especially rural areas that are under-served or unserved. As the owner of overhead structures across Québec, Hydro-Québec undertook to collaborate on rollout initiatives. At the end of the year however, there were still about 10% of Quebecers (340,000 households) who did not have high-speed Internet access.

When the pandemic hit, Hydro-Québec quickly reviewed its business processes to simplify and accelerate the rollout of high-speed Internet in Québec. Other initiatives included revising technical standards, monitoring deadlines and simplifying the process.

During the year, more than 75 meetings were held with private-sector and municipal applicants to accelerate project completion in the context of the pandemic. Hydro-Québec also participated in coordination committees with stakeholders and the Ministère de l'Économie et de l'Innovation, as well as other government initiatives.

Our commitment to collaboration was key to the continuation of educational, social and business activities, and set us apart as a leader among Canadian electricity companies. Hydro-Québec owns over 61% of poles in the province; the other owners are Bell, Télébec and Telus.

Corporate responsibility and social acceptability

The sustainable value we bring to Québec communities is not limited to affordable, high-quality electricity service, but includes the acceptability and adaptability of our operations. Hydro-Québec is a responsible corporate citizen that takes pains to understand the concerns and expectations of the communities with which it interacts. To ensure our operations are seamlessly integrated, we maintain a respectful dialogue with these communities, which guides us in adapting our presence and making it more socially acceptable.

In 2019, we began a process to determine which of the company's business units influence social acceptability, based on the eight factors identified by the Québec government. The results already indicate that a large number of teams contribute to social acceptability, and that communities have several anchor points in the company.

Measures implemented and indicators used to benchmark our social acceptability performance

Click on the icon to see the indicators

Field	Main priorities
Reception and tours	› Access to facilities and guides
	› Access to information and explanations
Government affairs	› Direct and ongoing contact with various government representatives
Public affairs and media	› Direct and ongoing contact with the media and interest groups
	› Consistency of official external messages
Electricity supply	› Prior consultation with contractors
	› Consultation process on matters to be submitted to the Régie de l'énergie
Compliance and sustainability	› Integrated Enhancement Program
	› Internal advisory role
	› Sustainability Report
	› Sustainable Development Plan
Donations and sponsorships	› Donations and sponsorships program
	› Positive corporate presence in all regions

Field	Main priorities
Environment	› Conduct environmental studies and monitoring programs
	› Communications to various categories of stakeholders
Public participation	› Internal advisory role
	› Public participation process for projects
Planning	› Internal – Social Acceptability Committee
	› Start integrating factors that promote the social acceptability of projects at the planning stage
Community relations	› Constant presence in the community and proactive communication
	› Internal advisory role
	› Openness to all stakeholders for work done in partnership
Indigenous relations	› Internal advisory role
	› Direct and permanent link with Indigenous communities
	› Proactive communication with various stakeholders
Health and safety	› Employee health and safety
	› Public health and safety

Mathieu Hark, system planning manager, presents a project during a public consultation meeting.

Social acceptability of projects

Every project is unique, and the measures taken to promote social acceptability vary depending on the host community's expectations. A project's social acceptance does not necessarily mean there is no opposition, but rather that as broad a consensus as possible has been achieved. By encouraging public participation, we work with communities to develop mutually beneficial projects.

Consultation on electricity supply options for the Îles-de-la-Madeleine

Having determined that the anticipated cost of the project to connect the Îles-de-la-Madeleine by underwater cables was higher than the estimate made in 2018, Hydro-Québec reviewed its comparative analysis of the different options for supplying electricity to the archipelago. In this context, we consulted various stakeholders in the fall of 2020 to document the social acceptability of the different options.

Here are some highlights of the consultation process:

- Nearly 1,000 participants shared their opinions with us through the various means we made available to them.
- We held 18 virtual meetings during which we met with 50 stakeholders.
- Participants could express themselves in different ways:
  - Online consultation platform (in French only)
  - Telephone survey (609 respondents)
  - By email or by telephone through the Info-Project line
- Residents each received, by mail, an information bulletin presenting the process and options under study.

Given that the Îles-de-la-Madeleine project is subject to the Régie de l'énergie's regulatory process, the results of the public consultation will be released at the same time as the complete comparative analysis, in the spring of 2021.

Connection through underwater cables

Wind generation with energy storage, paired with the power plant

Solar generation with energy storage, paired with the power plant

Generation using a carbon-neutral fuel at the current power plant

Thermal generation through forest biomass

Conversion of the existing power plant to liquified natural gas

Visit the special website with information on each of the options (in French only). (W)

Community relations

Hydro-Québec maintains an ongoing dialogue with all communities, and in particular with municipalities, through a network created over 20 years ago to pair each local authority with a specific community relations advisor. The advisor not only supports the municipality in its relations with Hydro-Québec, but also works to align the parties' interests. The company also maintains close relations with the two Québec-wide municipal associations through a liaison committee with the Fédération québécoise des municipalités (FQM), discussions with the Union des municipalités du Québec (UMQ) and a joint working group.

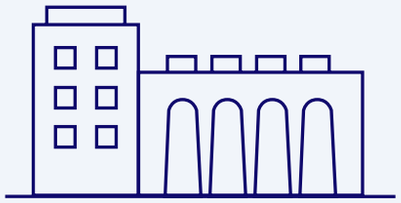
This year, we reached an agreement with the Ministère des Transports and the Beauharnois-Salaberry and Vaudreuil-Soulanges regional county municipalities to set up a safe bike lane on the Pont Monseigneur-Langlois. The lane will allow cyclists to continue to cross the river despite work on these structures that is scheduled to take ten years to complete.

Pont Monseigneur-Langlois, on which the bike lane will be set up (Montérégie).

Survey of our municipal partners

Hydro-Québec gauges the satisfaction of its municipal partners every year through a survey. The 2020 results show that all indicators are stable, after having increased significantly in the past few years. The average score for overall satisfaction with Hydro-Québec remains high (8 out of 10), and nearly 90% of respondents said they were satisfied or very satisfied with Hydro-Québec.

Examples of public participation



Modernization of the Rapides-Farmer facility

Project description and progress

Romaine complex

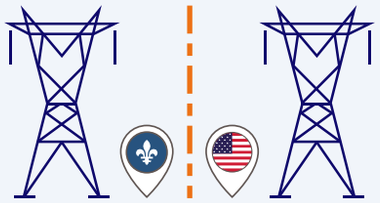
Project description and progress

Projet fact sheet (in French only)

Refurbishment of the retaining wall at Simon-Sicard dam

Project description and progress

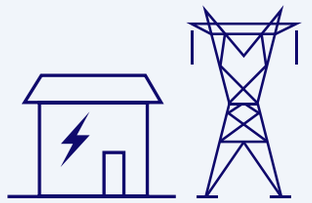
Projet fact sheet (in French only)



Appalaches–Maine interconnection

Project description and progress

Projet fact sheet



Anjou substation and 315-kV transmission line

Project description and progress

Projet fact sheet

735-kV Micoua–Saguenay line

Project description and progress

Projet fact sheet

Aqueduc–Saraguay project

Project description and progress

Projet fact sheet

In addition, a framework agreement between Hydro-Québec, the Fédération québécoise des municipalités and the Union des municipalités du Québec on the use of transmission line rights-of-way opened the door to a first recreational and community project. In September, Hydro-Québec and the city of Trois-Rivières jointly announced the construction of a 2.8-km bike path in the right-of-way of the transmission line between Rue De Normanville and Boulevard des Chenaux.

After being closed for two years following an accident between a driver and a Hydro-Québec employee, the La Gabelle road link reopened in October 2020. In collaboration with the municipalities of Notre-Dame-du-Mont-Carmel and Saint-Étienne-des-Grès, we adopted new safety measures. The municipalities also share information on a mobile app to notify users whether or not the link is open.

Hydro-Québec also maintains regular contact with agricultural sector stakeholders, including the Union des producteurs agricoles (UPA). We exchange information on an ad-hoc basis or at the regular meetings of the HQ-UPA liaison committee, at which we discuss issues involving Hydro-Québec's operations on farmland and in forested areas. The liaison committee met by videoconference twice in 2020.

Contribution to public land use plans

Measures to ensure the occupancy and vitality of territories – 2020

Exclusive web content

- 2020–2022 Action plan supporting the Québec government's 2018–2022 strategy to ensure the occupancy and vitality of territories (in French only)

COVID-19

When the public health measures to counter the pandemic were announced, we immediately reviewed our methods in the area of community relations. Using mainly remote communication tools, we met with the representatives of 1,013 municipalities—or more than 91% of Québec's municipalities—in 2020.

With open house events no longer an option, we decided to inaugurate the Patriotes substation in Saint-Eustache with a promotional campaign on social media.

When Rio Tinto Fer et Titane needed a crane to repair its loading facilities at the Havre-Saint-Pierre port but couldn't find one because of the pandemic, we freed up a 250-tonne crane from our Romaine-4 jobsite. The loan allowed the company to maintain operations at its Sorel-Tracy processing plant.

Two virtual subcontracting fairs were held for the Micoua–Saguenay project. The first was aimed at contractors in the Côte-Nord region and organized in partnership with the members of the project's economic spinoff discussion committee. It was attended by 32 people. The second was aimed at contractors in Saguenay-Lac St-Jean and attracted 70 participants. It was organized with the Chambre de commerce et d'industrie Saguenay-Le Fjord and the economic spinoff maximization committee.

Public health and safety

Hydro-Québec monitors its facilities and manages its operations with a view to reducing risks and nuisances while ensuring the public's safety, especially near our electrical and hydropower facilities. We inform the public about the hazards of electricity use and the risk of drowning near hydropower facilities. In the spring, we ran a campaign to raise awareness about public safety around our facilities using various outlets, including newspapers, radio and social media. Hydro-Québec employees intercepted and expelled 3,849 people from high-risk areas during the summer.

We also study the potential human health risks inherent in our operations and take steps to mitigate them.

In 2020, an article entitled "How to manage mercury at hydropower reservoirs" was published in *The International Journal on Hydropower and Dams*. The article presents the analysis of the health risks associated with the temporary increase in fish mercury in the Romaine complex reservoirs. Even though the risk for populations consuming fish from the area is considered low, we are conducting several field validations to confirm the accuracy of our findings.

Hydro-Québec operations and human health – Current status

Employees ensuring safety near Hydro-Québec facilities.

Since the late 1970s, Hydro-Québec has been conducting an extensive research program to determine the effects of increased mercury levels in fish and manage the potential health risks for fishers. Here, fish are being sampled at the mouth of the Rivière Romaine.

Electrical accidents – 2020

	Accidents	Deaths
Public – Hydro-Québec facilities	34	2
Public – Use of electricity	0	0
Skilled workers – Hydro-Québec facilities	37	1
Skilled workers – Use of electricity	6	1
Hydro-Québec employees	125	0
TOTAL	**202**	**4**

Note: Of the four deaths by electrocution, one was related to work on an energized grid that the person assumed was not energized (private grid), two were caused by accidental contact with distribution lines during road travel, and one was caused by accidental contact with distribution line conductors during landscaping work near an energized line.

Public satisfaction with Hydro-Québec

To continue to improve public satisfaction, we are honing in on the perceptions customers have about rates and on the support we offer during outages.

This year, Hydro-Québec's reputation score rose significantly. It is still the highest among comparable large companies. We wanted to improve our score in the 18–34 age group, and we succeeded, recording a rise from 6.58 to 7.08.

We also use various indicators to measure the quality of the services we provide to our residential and commercial customers. Call wait time and number of complaints and claims are key indicators. Each year, we manage over 3 million customer interactions, including phone calls, chats and exchanges on social media.

For over 25 years, we have been using surveys to determine our customer satisfaction index. Also, in compliance with the *Act respecting the Régie de l'énergie*, a complaints mechanism allows customers who feel they have been wronged to express their dissatisfaction.

Portrait of our customers

Electricity sales and number of customer accounts in Québec

96%

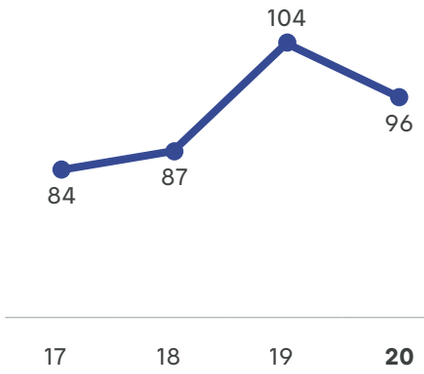
Percentage of the population that is very or quite satisfied with Hydro-Québec

7.38

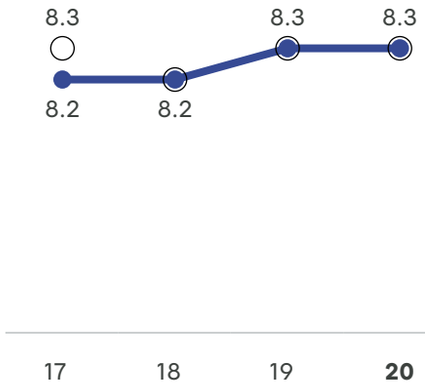
Hydro-Québec's reputation score

Awards

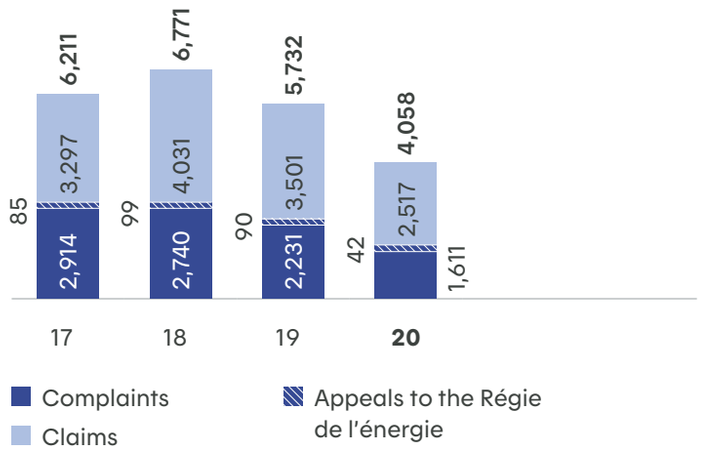
Average call wait time at customer relations centers (secondes)



Customer satisfaction – Combined index (scale of 10)



Customer complaints and claims (number)



PROGRESS REPORT

Target 8.1: Obtain Bronze-level certification from the Canadian Council for Aboriginal Business's (CCAB) Progressive Aboriginal Relations (PAR) program

Indicator: Progress in the PAR Bronze certification process (%)

Status: 30% progress in the PAR certification process

Strategy 8 – **Take steps to include Indigenous peoples and encourage their input into our development**

Eleven Indigenous nations live in 55 communities throughout Québec, from north to south; each has its own culture and lifestyle. We endeavor to develop mutually beneficial partnerships with these communities and call upon their knowledge of the natural environment when conducting environmental inventories and implementing mitigation measures. In carrying out our projects and operations, we maintain strong relationships with the various Indigenous communities, in keeping with their culture and their traditional use of the land. Because each community is unique, we strive to adapt our methods and practices to local realities.

Since 1990, and under the *Apatisiiwin Agreement*, Hydro-Québec has progressively hired nearly 140 Cree employees. Today, 97 of them work as power system electricians, mechanics, operators, receptionists and telecommunications and automatic controls technicians.

Indigenous communities have started various businesses that offer products and services to Hydro-Québec. Present in all Québec regions, these businesses contribute to the province's economic growth. The value of contracts awarded to Indigenous-owned businesses in 2020 was $140.9 million, or 4.75% of the total value of all contracts.

Jason Kistabish, power system electrician in Baie-James.

Village of Kuujjuaq, located on the banks of the Rivière Koksoak, in Nunavik (Nord-du-Québec).

In 2020, we renewed our food and janitorial services contract for the Péribonka generating station residence with Développement Piekuakami Ilnuatsh (DPI), a limited partnership whose sole limited partner is the Band Council of the community of Mashteuiatsh, called Pekuakamiulnuatsh Takuhikan. With this contract, DPI and Hydro-Québec want to continue to maximize economic spinoffs for the community and maintain their strong relationship. The contract is worth approximately $10 million, with a term of five years and an option to renew for two years.

We concluded two agreements with the communities of Nutashkuan (2020) and Unamen Shipu (2019), which aim to reconcile the interests of Hydro-Québec with those of the signatory communities.

In addition, 71 employees took part in a training program entitled “Hydro-Québec et les autochtones” [Hydro-Québec and Indigenous peoples]. Intended for employees who work with Indigenous communities or on files related to Indigenous peoples, the program covers the following topics: overview of Québec’s Indigenous nations, Hydro-Québec’s business relations with Indigenous nations (agreements and projects), and general legal framework.

Amendments were made to the Nishipiminan (2009), Nanemessu-Nutashkuan (2008) and Unamen-Pakua (2008) agreements to change the payment schedule of the economic and community development funds related to the commissioning of the Romaine-4 generating station.

We reaffirmed our commitment to a partnership approach for developing renewable energy projects in Nunavik. Discussions and collaboration are ongoing with Tarquti, Nimschu Iskudow and the community of Obedjiwan.

Map of Indigenous nations and communities of Québec

COVID-19

Numerous and ongoing discussions were held with Indigenous communities to determine how to adapt the work methods of our employees and contractors to limit the spread of COVID-19. Examples of projects for which such discussions took place include the work to connect the community of Unamen Shipu and the maintenance work carried out in Nunavik.

Following the closure of the community of Kahnawake due to the pandemic, we used a remote interviewing technique to document how community members use a 9-km stretch of right-of-way, as part of a project to dismantle lines in the area.

Environment

Environment

Become an environmental leader through our choices, innovative practices and expertise

The pandemic has highlighted the importance of biodiversity, which today is increasingly under threat from climate change, deforestation, urban sprawl, large-scale infrastructure projects and ecosystem pollution. Our environmental strategies focus on preserving the climate, safeguarding biodiversity, and protecting natural resources and environments.

Organizations around the world are turning to renewable electricity to meet their energy needs as part of their strategies to combat climate change. These new expectations regarding energy represent business opportunities for us, including the chance to increase our electricity sales to customers seeking a low-carbon power source.

Our strategies

- Work toward decarbonizing all of our business activities and markets
- Equip Quebecers to lower their energy consumption through better electricity use
- Enhance and protect biodiversity
- Reduce resource use by applying the principles of the circular economy

In this section

Stakeholders

Materiality analysis aspects

Strategy 9 – **Work toward decarbonizing all of our business activities and markets**

PROGRESS REPORT

Target 9.1: Avoid 4.6 Mt CO_2 eq. of emissions through our long-term export contracts

Indicator: GHG emissions avoided (Mt CO_2 eq.)

Status: 2.5 Mt CO_2 eq. of GHG avoided (2019: 2.5 Mt CO_2 eq.)

Target 9.2: Cut direct emissions of our operations by 35% by 2027

Indicator: Direct GHG emissions reduced compared to 2018 (%)

Status: Direct GHG emissions reduced by 1% compared to 2018

Target 9.3: Aim for carbon neutrality by 2030

Indicator: Development and progress of a carbon-neutral strategy (%)

Status: Established roles and responsibilities and a preliminary action plan

The pandemic turned the world's attention away from the question of climate change, forcing the cancellation of such major international events as the Conference of the Parties of the United Nations Framework Convention on Climate Change. Yet the fight against climate change continues unabated at Hydro-Québec, with carbon neutrality by 2030 still firmly in our sights. We intend to help decarbonize the markets in both Québec and in neighboring states and provinces, in the first case by electrifying transportation, processes and buildings, and in the second, by exporting our clean, renewable electricity.

Carbon market

Québec and California are partners in a carbon market. Under Québec's cap-and-trade (C&T) system for GHG emission allowances, organizations such as Hydro-Québec that emit more than 25 kt CO_2 eq. annually must offset their emissions in keeping with set terms and conditions.

The following three emission sources make Hydro-Québec subject to the C&T system: the oil-fired thermal generating station on Îles-de-la-Madeleine; electricity purchased outside Québec from thermal sources; and the loss of insulating gases from certain facilities. To date, the carbon market has generated over $3.8 billion in revenue for Québec—a sum that has been earmarked to support the province's transition toward a lower-carbon future.

In late 2020, the federal government introduced Canada's climate plan. The plan should put Canada on track to exceed its GHG reduction targets by 2030 and move to net-zero emissions by 2050. Its measures include considerably raising the price of GHG emissions, with the price per tonne rising by $15 per year as of 2023 to reach $170 per tonne by 2030. Note that federal carbon pricing will not apply in Québec, which already has a carbon market.

Carbon market

Decarbonizing our operations

In 2020, our GHG emissions totalled 528,742 t CO_2 eq., 43% of which are attributable to the thermal generating stations that power our off-grid systems, 8% to our vehicle fleet and 14% to insulating gas leaks.

Our decarbonization strategy entails cutting direct emissions from our operations by 35% by 2027, and becoming carbon neutral by 2030.

Off-grid systems

Our main GHG emission sources are the thermal generating stations that supply off-grid systems. In 2020, these systems delivered 433.3 GWh of power to some 20,110 customers living in remote areas.

Hydro-Québec is currently converting the power supply for off-grid systems to renewable energy. Through measures such as harnessing wind and solar power, using smart microgrids, connecting remote communities to the main grid and purchasing energy from a run-of-river generating station, we aim to achieve 70% renewable supply by 2025.

The arrival of distributed energy resources (DERs) is changing power grid planning. The integration of DERs now figures in the design of simulation tools used to optimize distribution and transmission system management. To facilitate the conversion of off-grid systems to cleaner, less costly energies, we developed two decision-support tools. Through them, we can simulate the most efficient energy generation (solar, wind, biomass) and storage technologies, conduct a technical and economic analysis, and recommend the best solution.

Status of off-grid system conversion projects

Nunavik	Discussions are under way with Cree and Inuit organizations (including Tarquti) for the launch of renewable energy projects. Partnerships of this kind remain the approach best suited to the Nunavik business context and attest to our desire to expand our collaboration with Indigenous peoples.
Tasiujaq	New hybrid (diesel and solar) power plant expected to be commissioned in December 2022.
Inukjuak	Construction of a hydroelectric generating station began in summer 2020, with energy deliveries slated to start in December 2022.
Kuujjuarapik-Whapmagoostui	Discussions on a wind energy purchase contract were held with the proponent, a company from the Cree and Inuit communities. Energy deliveries are scheduled to begin in December 2023.
La Romaine	Connection of the village of Unamen Shipu to the main grid is scheduled for 2021.
Obedjiwan	Talks are under way with the Atikamekw community to assess various supply options, including the possibility of building a forest biomass cogeneration station.
Îles-de-la-Madeleine	The Dune-du-Nord wind farm, commissioned in winter 2020, will supply Îles-de-la-Madeleine with power for 20 years. As we continue to assess different scenarios to ensure the reliability of power supply to the islands, we are also updating our study of other electricity supply solutions. Building on our experience at Lac-Mégantic (see next page), we intend to deploy a microgrid on Îles-de-la-Madeleine integrating renewables, energy storage units and tools for managing energy use.

Map of generating stations serving off-grid systems

Renewable energy sources: current state of knowledge

In addition to hydroelectricity, which accounts for over 99% of Hydro-Québec's output, there are a number of emerging and established renewable energy options that show potential. Over the year, we updated our data sheets on the following emerging renewables: hydrokinetic power, osmotic power, photovoltaic solar power, biomass power, small wind power, geothermal energy and hydrogen energy.

Data sheets on renewable energy sources (W)

Energy consumption in Québec by sector – 2020 (+)

Main sources of GHG emissions in Québec, Canada and the world (+)

Vehicle fleet

In 2020, we added 162 light hybrid or plug-in vehicles to our fleet, bringing the total of such vehicles to 561. Our goal is to increase this number to 1,000 by 2025. GHG emissions from our light-vehicle fleet fell by 10.7% compared with 2019 (50,131 t CO_2 eq.).

As of December 31, our fleet had a total of 5,805 vehicles, including 1,673 heavy and 4,132 light vehicles. Heavy-vehicle emissions decreased by 13.4% compared with 2019 (29,785 t CO_2 eq.). A pilot project with Lion Électrique and Posi-Plus Technologies should procure us an all-electric bucket truck by the end 2021. Studies are also under way with various suppliers to gauge the electrification potential of vans and other vehicles, including snowmobiles.

The Lac-Mégantic microgrid

Québec's first microgrid is being progressively rolled out in Lac-Mégantic, in a joint undertaking with the municipality. The project incorporates some of the most advanced technologies in solar power, energy storage and load management, which will allow us to expand our expertise in distributed energy resources (DERs). The microgrid, whose 2,200 solar panels can meet the needs of 50 households, will stay connected to Hydro-Québec's main grid to ensure a reliable power supply at all times.

Decarbonizing our markets

Hydro-Québec provides its customers in Québec and elsewhere with electricity that is over 99% clean and renewable. However, electricity represents only 38% of the energy used in Québec, with petroleum products accounting for 40%, and natural gas, 13%. Québec's decarbonization strategy is therefore based on increasing electrification in the transportation, building heating, industrial and farming sectors. Beyond our borders, we also intend to contribute to decarbonization in neighboring provinces and the northeastern U.S.

In line with the Québec Plan for a Green Economy, the coming years will see us play an increasing part in helping the government achieve its target of cutting GHG emissions by 37.5% by 2030. For example, by 2024, additional electrification efforts should account for 17% of total avoided GHG emissions in Québec compared to the 1990 emission level.

Atmospheric emissions from electricity generation and purchases were significantly lower in Québec than in other Canadian provinces and neighboring U.S. states: 481 t CO_2/TWh (334 times less), 1.1 t SO_2/TWh (315 times less) and 7.4 t NO_X/TWh (269 times less).

New GHG comparison tool for business customers

In fall 2020, we produced a comparison tool designed to educate companies about the role they can play in reducing their greenhouse gas emissions. The tool allows businesses to compare the emission difference between heating their buildings with fossil fuels and heating them with electricity—a vivid illustration of the impact of their heating choices and the contribution they could make to reducing GHG emissions.

Solar generating stations in La Prairie and Varennes

In December 2020, we completed the construction of our first photovoltaic solar generating stations, located in La Prairie and Varennes. With over 30,000 solar panels, their grid-connected installed capacity will be close to 10 MW. Commissioning has been scheduled for the first half of 2021. In addition to producing electricity from sunlight, the two facilities will deepen our knowledge of photovoltaic generation, help us assess the viability of centralized solar energy production in Québec and allow us to identify the technologies best suited to the province's specific conditions.

GHG emissions from Hydro-Québec operations – 2017 to 2020 (t CO_2 eq.)

GHG

90%

Reduction in GHG emissions since 1990

Improving the accuracy of electricity carbon footprint

Estimation of hydroelectric reservoir GHG emissions

In this article, the authors compare nine different methods for calculating GHG emissions per kWh of hydroelectricity and recommend the G-res model, which integrates net GHG emissions and better integrates CH_4 emissions. The study considers all emission fluxes (CO_2: diffusion and degassing; CH_4: diffusion, bubbling, degassing).

The findings indicate that our emissions are still low and comparable to other renewable energy sources. The study uses the most recent scientific methods and most up-to-date data, taking into account recognized protocol changes.

This is the first time the G-res model has been used to showcase a company's electricity mix. The method, developed at the Université du Québec à Montréal (UQAM), is based on years of Hydro-Québec-supported research and has now been adopted by the Intergovernmental Panel on Climate Change (IPCC).

Transportation electrification

In personal transportation, we want to step up the rollout of the Electric Circuit, raise public awareness about the benefits of electric vehicles and continue to develop battery materials. The Electric Circuit is Canada's largest electric vehicle charging network, with over 95,000 members and some 670 partners who host over 3,000 public charging stations (including 450 fast-charge stations). The network covers Québec's 17 administrative regions as well as parts of eastern Ontario. Our aim is to have 2,500 fast-charge stations in Québec by late 2030.

A number of test benches are currently under way to test ultra-fast charging stations. Currently up and running at the Port-du-Nord rest area (between Saint-Jérôme and Saint-Sauveur) are two stations that share a maximum charging capacity of 125 kW. A second site at the Magog service area has been in service since January 2021 and features two charging stations, one at 350 kW and the other at 160 kW.

We developed a charge management pilot project with Autobus Laval in partnership with Lion Électrique and the Innovative Vehicle Institute. We also launched a second pilot project to test a fast-charge public charging network for taxis in the Montréal region.

In public transit, we're contributing financially to the Réseau express métropolitain (REM), which will drastically change the face of public transit in the greater Montréal area. In 2020, our crews put 10,000 hours into 51 power system relocations in three regions (Montréal, Laurentides and Montérégie), with an estimated budget of $32.6 million.

Another major public transit project, the city of Québec's tramway, required the undergrounding of some 22 km of distribution lines, for an estimated value of $175 million.

We also contributed to two Société de transport de Montréal projects: the extension of the bus rapid transit (BRT) service on Boulevard Pie-IX and the extension of the Montréal metro's blue line.

Boosting innovation in electric mobility

From mining the natural resources to producing a safe and efficient battery, Hydro-Québec's new generation of solid electrolyte batteries is 100% made-in-Québec.

IREQ teamed up with the California-based Lawrence Berkeley National Laboratory to start a joint R&D laboratory specialized in new battery materials for electric vehicles. The project has received a $13.5 million grant from the Québec government.

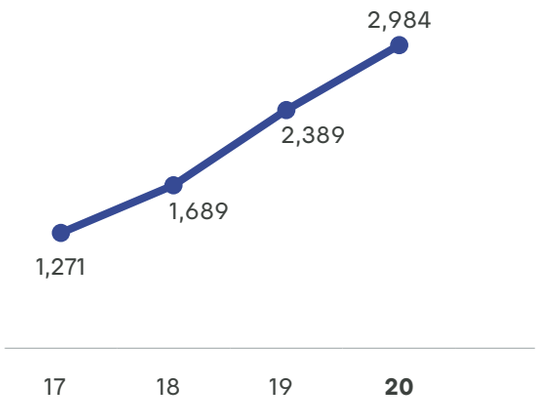
In 2020, Hydro-Québec invested over $25 million into a partnership with Dana Incorporated. In the spring, Dana TM4 acquired Ashwoods Electric Motors, a U.K. company that provides electric propulsion solutions. After building a manufacturing facility for low-voltage motors, inverters and controllers for electric vehicles of all kinds (including electric buses and small three-wheelers), Dana TM4 launched a new advanced production line for its Motive series in the fall. A showcase for Dana's electric motors, the facility is located in Maumee, Ohio. Hydro-Québec maintains a 45% interest in Dana TM4 Inc.

We also signed an agreement with the University of Texas at Austin under which patents for a new type of electrolyte used in solid-state lithium batteries will be transferred to Hydro-Québec. The fruitful 25 year relationship between the university and Hydro-Québec has brought to market many innovations that are now used extensively worldwide.

Manufacturing a SUMO electric powertrain at the Dana TM4 facility in Boucherville (Montérégie).

The Center of Excellence in Transportation Electrification and Energy Storage has a dry room dedicated to solid-state battery assembly.

Number of Electric Circuit charging stations



Video

How Hydro-Québec manufactures next-generation batteries

[Running time: 12 min 56 s]

Process electrification

Decarbonization initiatives with partners and customers

In the city of Baie-Comeau, located in the Côte-Nord region, local business Lefebvre Industri-AL built a facility for recycling aluminum dross right next to Alcoa's main aluminum plant. Until now, dross recovery had been carried out in the U.S., in a process fueled mainly by natural gas. The Lefebvre Industri-AL project represents a twofold gain in terms of decarbonization: eliminating the need to transport the dross; and using clean, renewable hydroelectricity for the transformation process.

Converting the heating systems of large buildings represents another promising avenue in terms of our decarbonization goals. Together with Emerson, we developed a powerful, commercial-grade CO_2 heat pump designed for use in large buildings. The first application of this competitive technology, which offers a number of advantages over natural gas heating, will be in a federal government building in Gatineau.

Finally, when it comes to the needs of data center operators, Hydro-Québec is a partner of choice for customers seeking to meet their GHG reduction targets. Indeed, the leading operators have stated that they want to be using 100% renewable energy by 2030. And the numbers are compelling: a 50 MW data center set up in Québec as opposed to Atlanta avoids annual emissions of roughly 300,000 t CO_2 eq., or the equivalent of taking 116,000 cars off the road. Data center electricity consumption in Québec doubled between 2016 and 2019 to reach 600 GWh. Their installed load, currently at 90 MW, is forecast to rise to 700 MW by 2030.

Data center.

Green hydrogen in Québec: A decarbonization tool for difficult-to-electrify sectors

Compared to grey hydrogen, which is derived from fossil fuels and holds the lion's share of the market, green hydrogen is produced from renewables. Thanks to the rapid development and increasing competitiveness of renewables, combined with GHG reduction targets and technological advances, green hydrogen has become a powerful lever for the energy transition in numerous countries. In fact, green hydrogen is a key decarbonization tool since it can indirectly electrify uses like industrial processes, heavy transport and chemical processes where direct electrification is not feasible.

With its competitively priced renewable electricity and vast reserves of energy available at all times thanks to the storage capacities of hydropower reservoirs, Québec is extremely well placed to support the development of green hydrogen. In fact, Hydro-Québec is currently developing a strategy for building a competitive green hydrogen industry in Québec. This strategy will be based on four main components: Hydro-Québec's recognized expertise in the area of renewables; the leading-edge research in the field of hydrogen conducted by Québec's universities and research centers; the proximity of the vast U.S. market; and the Québec government's ambitious GHG reduction targets.

A potential game-changer by 2030

In addition to helping reduce GHG emissions in Québec, a green hydrogen industry will lower our dependence on fossil fuel imports, thus improving our trade balance. It will also support economic development and job creation. By 2030, green hydrogen could contribute significantly to decarbonizing the Québec economy by fueling heavy vehicles for goods transport, serving as a raw material for carbon-neutral synthetic fuels produced for the transport industry, and replacing grey hydrogen in industrial processes such as steelmaking, oil refining and ammonia and methanol production.

An ambitious first undertaking

In December 2020, Hydro-Québec announced its plans to build and operate an electrolysis plant whose 88-MW capacity will make it one of the world's most powerful electrolyzers for green hydrogen production.

Located in Varennes, the facility will supply green hydrogen and oxygen to the Recyclage Carbone Varennes (RCV) biofuel plant. RCV's advanced technologies will offer an alternative to landfilling and incinerating non-recyclable waste materials by converting the latter into biofuels—a process that will help foster the circular economy in Québec. Both plants are expected be operational by the end of 2023.

The project, developed jointly with Enerkem, Shell, Suncor and Proman, points up Hydro-Québec's support for green hydrogen as an emerging energy source in Québec.

Decarbonizing the northeastern U.S. and neighboring provinces

Hydro-Québec sells electricity on wholesale markets in the U.S. Northeast. Our energy offers a threefold advantage to markets outside Québec: reduced GHG emissions, a reliable power supply and competitive prices.

By 2024, emissions avoided thanks to our long-term export contracts with neighboring Canadian provinces and U.S. states will reach 4.6 Mt CO_2 eq.

In 2020, we pursued our efforts to move forward with two cross-border interconnection projects and to boost the power transmission capacity between Québec and neighboring U.S. states. At time of writing, the Champlain Hudson Power Express line has obtained all the requisite approvals on the American side. On the Québec side, development of the Hertel–New York project is moving along. Applications for government approvals are slated for 2021.

Through this project, we aim to actively contribute to New York State's decarbonization efforts. In a landmark decision, the New York Department of Public Service voted to expand the state's Clean Energy Standard to accelerate the decarbonization of the electricity grid. The ruling paves the way for all forms of hydropower, including Québec's, to be eligible for renewable energy credits, subject to certain conditions.

Further east, the New England Clean Energy Connect (NECEC) line has received all the necessary approvals. The final step in the lengthy U.S. regulatory approval process was the Presidential Permit, delivered by the U.S. Department of Energy in January 2021. Despite the remaining milestones, this step marks a major victory for the interconnection. As for the Appalaches–Maine portion of the project, Hydro-Québec hopes to obtain the required authorizations in the coming months.

Radisson substation is a 735-kV converter substation and the starting point of the 450-kV direct-current interconnection line that runs from Baie-James to Sandy Pond substation, near Boston. Construction of the 1,500-km line began in the 1980s under a partnership between Hydro-Québec and New England's utilities. To date, the line has transported more than 100 billion kWh of clean electricity.

Interconnection capacities

	2017	2018	2019	2020
Import capacity (MW)	6,025	5,975	6,025	6,025
Export capacity (MW)	7,974	8,212	7,974	8,145

Exclusive web content

- GHG emissions and reservoirs
- Life cycle assessment at Hydro-Québec
- GHG emissions and Hydro-Québec electricity

The NECEC interconnection project will help reduce atmospheric pollution while ensuring a reliable electricity supply to homes and businesses in Maine and Massachusetts. When completed, the line will carry 1,200 MW of Hydro-Québec's clean and competitively priced energy to New England, by way of Lewiston, Maine. Massachusetts will be supplied with 9.45 terawatthours (TWh) of renewable energy for 20 years; Maine, in turn, will receive 0.5 TWh per year, as per the agreement reached with the state in summer 2020.

A trio of agreements were signed covering the purchase of 47 TWh of electricity by New Brunswick, as well as knowledge sharing and the construction of new interconnections between the two provinces. From now until 2040, Hydro-Québec will export an average of over 2 TWh per year to New Brunswick. We will also help refurbish Mactaquac hydroelectric generating station with a view to extending its useful life to 2068. Lastly, talks are under way about building additional interconnections between Québec and New Brunswick to increase our electricity exports to Atlantic Canada.

Emissions avoided through net exports of electricity

	2017	2018	2019	2020
Emissions avoided (kt CO_2 eq.)	8,362	7,902	6,949	6,611
Net exports (TWh)	34.4	36.1	33.7	31.3

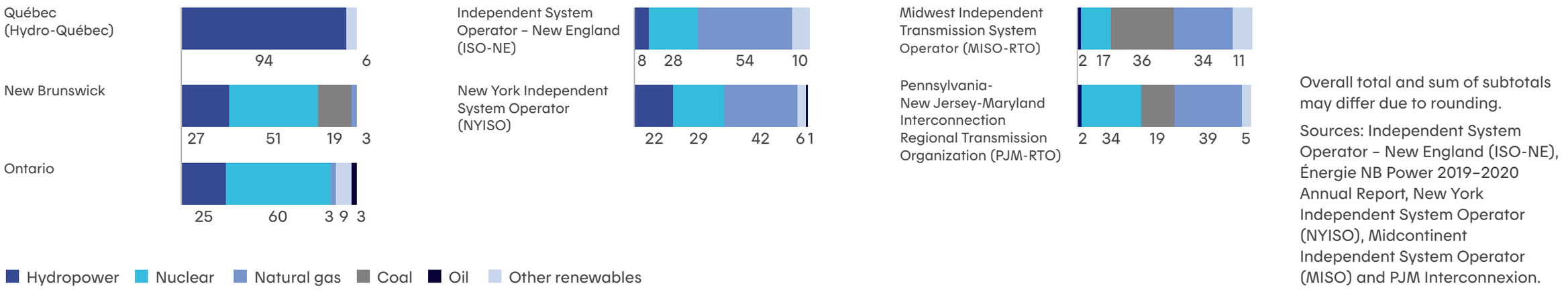
The positive differential is gradually waning as the U.S. Northeast turns to new sources of supply with lower GHG emissions.

Calculating emissions avoided

Emission factors in the main export markets – 2020

2050 greenhouse gas emission-reduction targets – Export markets

Main export market energy mixes (%)



Overall total and sum of subtotals may differ due to rounding.

Sources: Independent System Operator – New England (ISO-NE), Énergie NB Power 2019–2020 Annual Report, New York Independent System Operator (NYISO), Midcontinent Independent System Operator (MISO) and PJM Interconnexion.

PROGRESS REPORT

Target 10.1: Propose electricity management solutions to our business and residential customers that aim to cut energy use by 2.49 TWh and potentially reduce power demand by 1,523 MW compared to 2019.

Indicator: Reduction in energy use by business and residential customers (TWh)

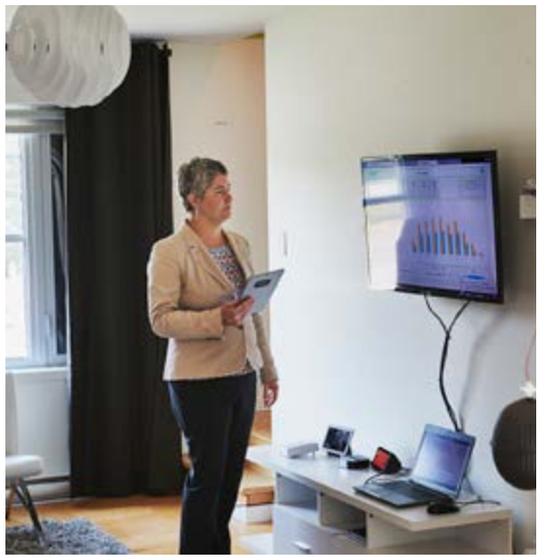
Status: A 0.4427-TWh reduction in energy use by business and residential customers (2019: 0.478 TWh) ⊕

Indicator: Potential reduction in power demand (MW)

Status: 327-MW potential reduction in power demand ⊕

Strategy 10 – **Equip Quebecers to lower their consumption through better electricity use**

The health measures enacted to slow the spread of COVID-19 caused Québec's real GDP to drop by 12.2% in the second quarter of 2020. Total electricity sales in Québec for 2020 were down by 3.2 TWh (1.8%), in large part due to declining demand from industrial and commercial customers that the uptick in residential demand didn't compensate for. Despite the upturn anticipated for the third quarter of 2021, we estimate the Québec economy will take until 2022 to fully recover. Our electricity sales forecast for 2029 is 186.2 TWh, representing a 15.9-TWh increase in demand over the period targeted by the Electricity Supply Plan 2020–2029.



A smart home at our energy technologies laboratory (LTE) in Shawinigan (Mauricie region). Test houses help our teams study energy use and develop homes equipped with connected electric and electronic devices.

Launch of our EVLO subsidiary

The December 2020 launch of our subsidiary, EVLO, makes us well placed to integrate distributed energy resources (DERs). EVLO technology is the culmination of over 40 years of R&D on battery materials. Its storage systems have been tested in real operating conditions on Hydro-Québec's grid, not only for peak shaving at Hemmingford substation in the Montérégie region, but also in the Quaqtaq off-grid system in northern Québec, where they were subjected to extreme weather. In addition to equipping Hydro-Québec to fulfill its leadership role in the energy transition, EVLO will contribute to the international development of solar and wind power. The subsidiary has already signed a memorandum of understanding with Innergex for the Tonnerre project in France, under which a 9-MWh storage system will be commissioned in 2021.

Exclusive web content

- Understanding power and energy

Electricity supply plan

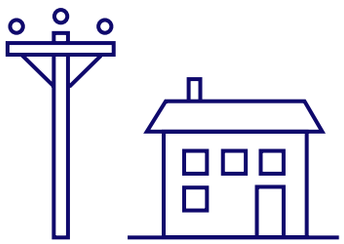
Every three years, Hydro-Québec files an electricity supply plan with the Régie de l'énergie that presents the anticipated electricity needs of Québec customers for the next 10 years and the means by which they will be met. The plan's annual progress report (in French only) provides an overview of the balance of electricity supply and demand in terms of power and energy.

The energy balance indicates that Hydro-Québec's available and future supplies will be sufficient to meet electricity needs until 2026. However, new long-term supplies will be needed to meet energy and power demand after 2026. Over the next year, we will be taking steps to acquire such supplies to meet demand within the prescribed timeframe. A review of the electricity generation sector has shown that other renewables hold potential solutions for the Québec market.

Energy balance

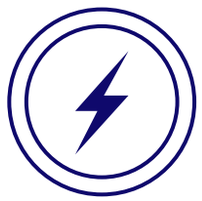
COVID-19

The challenges brought about by the pandemic compounded the innovation challenges involved in the implementation of the Lac-Mégantic microgrid. Certain communications activities had to be radically rethought. With open-house events banned, the community used Hydro-Québec materials to put together an educational exhibition about the microgrid that could be attended in compliance with health measures. Set up at the heritage train station, the event attracted a record number of visitors—even tourists.



99.6%

Power delivered to customers generated by renewable sources



29,154 GWh

Volume of electricity purchases outside Québec

HYDRO-QUÉBECERS IN CONVERSATION

Did you know that the microgrid we commissioned in Lac-Mégantic in 2020 is the very first in Québec? It's a win-win project. Lac-Mégantic will become an innovation hub, and Hydro-Québec will expand its expertise in solar power integration, energy storage and demand management. What's more, the technologies could be adapted to our 22 off-grid systems located in remote regions.

Karine Lavigne, researcher and technological options advisor

David-Olivier Goulet, project engineer in charge of the connection to the Hydro-Québec grid

Patrick Martineau, team leader in charge of coordination with stakeholders

Linda Otis, team leader in charge of community approach development

Full conversation ⊕

Microgrids and integrating distributed energy resources

Emerging optimization technologies

New technologies make it possible to foresee the rapid deployment of smart grids that can coordinate and optimize power generation, storage, distribution and consumption. With distributed energy resources (DERs) now a reality, systems planning must change.

Closer to the concerns of residential customers, the smart home at our energy technologies laboratory (LTE) allowed us to characterize the different classes of DERs, in addition to studying how efficient building design interacts with the grid through smart technologies that optimize energy use: space and water heating, energy storage, lighting, charging stations, and solar and wind power generation.

Îles-de-la-Madeleine microgrid

A second microgrid is in the planning and consultation phases, this time in Îles-de-la-Madeleine. The municipal council has already approved plans to build a microgrid-powered ecodistrict and, despite the pandemic, Hydro-Québec continued its exchanges with the community with a view to adapting the project to local needs and expectations. In addition to improving energy use optimization in the archipelago, the microgrid will showcase the energy transition in Îles-de-la-Madeleine.

Hilo launches its smart home

Hilo, the Hydro-Québec subsidiary specialized in new energy services, launched its smart home service in 2020. This offering makes it easy for Quebecers to optimize their power consumption and save on their bills through challenges that prompt them to use less electricity during peak periods in exchange for monetary rewards. Using a mobile app, customers can also track their consumption in real time, program their smart devices, create “scenes” (i.e., set different devices to activate at specific times—for example, “leaving home,” or “vacation”) and receive energy-saving tips.

Hilo users can currently choose from a range of devices: thermostats, a smart hub, light bulbs, plugs, switches, dimmers, a smoke-and-carbon-monoxide detector and a weather station.

At present, Hilo’s services are available in four Québec cities: Greater Montréal, Québec, Gatineau and Trois-Rivières.

Responsible energy use

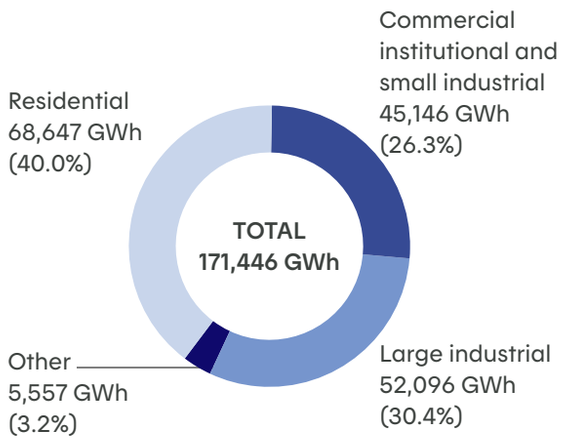
Adopting habits that encourage responsible energy use helps us make wiser use of our collective resources. For customers, applying energy efficiency and consumption reduction initiatives can help them keep costs down without sacrificing comfort.
The savings achieved don’t just help conserve resources, they also avoid or defer the need for unnecessary investment in power generation, transmission and distribution.

Energy efficiency

Energy efficiency allows customers to enjoy the same level of service while using less electricity, which helps conserve resources.

In 2020, we increased our energy conservation goals for 2029. We are currently developing new programs and business approaches to encourage greater customer participation. The energy savings attained through our programs will free up power for transportation and building electrification, in addition to deferring the need to invest in the transmission and distribution systems.

Electricity sales in Québec by segment – 2020



Overall total and sum of subtotals may differ due to rounding.

Residential customers

Two online tools, the ENERGY WISE Home Diagnostic and the Dare to Compare service, have reached the end of their useful life and are therefore undergoing a major overhaul. Given the scope of the task and the amount of expert input required from our multidisciplinary teams, the phased implementation of the new versions of these tools should begin in 2022. Until then, the existing versions will remain available.

As part of a demand response pilot project, we will be testing a new, centralized thermal storage technology with residential customers in Montréal-Ouest who use dual-energy or fuel-oil systems. Our aim is to validate the commercial viability of the proposed solution before rolling it out on a larger scale. The technology stands to increase sales without changing peak power demand on the distribution system.

For a second year running, two dynamic pricing options—the Winter Credit Option and Rate Flex D—were offered to some of our residential and small-power customers. Both offerings allow subscribers to save money by reducing their electricity use at Hydro-Québec's request during peak events, which can occur from 6 to 9 a.m., and 4 to 8 p.m.

In winter 2019–2020, the 20,000 customers who had signed up for these offerings achieved average peak shavings of 0.8 kW per event. Collectively, their actions helped reduce electricity demand in Québec by approximately 16 MW per peak event—roughly on par with the average demand of 3,000 residential customers.

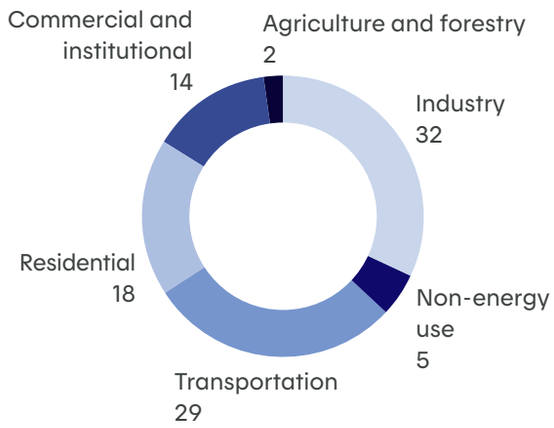
In a survey conducted with participants last year, 77% of respondents said they wanted to continue with dynamic pricing. This past winter, over 60,000 customers were enrolled in one of the two options.

New annual energy savings – Energy efficiency initiatives[a] (GWh)

	2017	2018	2019	2020
Residential customers	200	212	214	225
Business customers	321	245	257	218
Off-grid systems	3	3	10	0
ENERGY SAVINGS	**524**	**460**	**481**	**443**

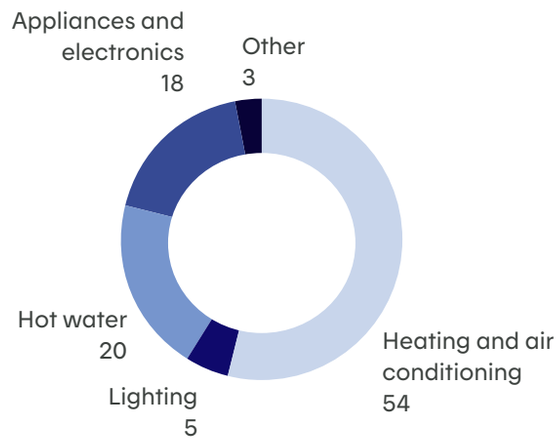
a) Results adjusted after the Water- and Energy-Saving Products Program assessment report.

Total energy consumption by sector in Québec (%) – 2020



Source: *État de l'énergie au Québec 2020*, HEC Montréal

Average annual energy consumption by type of use in Québec (%)



Business customers

The Efficient Solutions Program was modified to increase customer participation and generate more energy savings. Now financing up to 75% of eligible expenses, the program stimulates economic recovery by boosting the profitability of participants' investments, reducing their operating costs and improving their competitiveness. In 2020, energy savings of 122 GWh were achieved under the program's Building component and 86.2 GWh under the Industrial component.

Aimed at energy-intensive industrial customers, the Electricity Management Systems Program offers support and financial assistance for installing continuous measuring instruments that identify sources of energy waste and ways of optimizing the energy efficiency of processes, systems and equipment.

Our Efficient Farming Products Programs brought about energy savings of 9.5 GWh in 2020.

We maintained our Innovative Projects Program, which promotes the development of highly efficient real estate projects through the use of high-performance technologies and innovative electromechanical systems. In 2020, this program generated 3.2 GWh in energy savings.

Means implemented by participating business customers in the Demand Response program helped reduce power demand by 297.4 MW. Under a Régie de l'énergie ruling, the Demand Response program for business customers was changed to a rate option, effective since September 14, 2020.

Off-grid systems

For each off-grid system, we use a project-based approach to maximize customer engagement in energy efficiency initiatives. All new initiatives are therefore rolled out for a given system and for a limited time.

In Nunavik, we're currently establishing an action plan to support energy efficiency initiatives, although our efforts have been slowed due to the pandemic.

We also continued our awareness-raising campaigns about winter peaks. Tailored to specific clienteles, the messages drive home the importance of moderating energy use during periods of intense cold.

Measures implemented in off-grid systems (in French only) (W)

An all-electric school

The Du Sommet elementary school (Centre de services scolaire des Draveurs) was built using an all-electric approach incorporating the following technologies: water-to-water and water-to-air geothermal heat pump systems, a solar wall, a heat wheel, LED lighting and a backup electric furnace.

Hydro-Québec provided the project with $59,000 of financial support to implement measures enabling energy savings of 267,000 kWh, equivalent to the power consumption of 11 homes.

Energy savings – Our buildings and facilities

We take concrete steps to reduce energy consumption in our buildings and facilities. The savings achieved mainly relate to lighting, ventilation and energy recovery. We also rehabilitate and refit our generating stations to increase capacity and output. In addition, we implement measures to reduce energy losses on our transmission system.

We drew up a list of 41 buildings whose power demand will need to be reduced during the next winter peak. The energy management measures we applied during the 2019–2020 winter peak reduced demand in our administrative buildings by 10,431 kW. Our energy performance for 2020 shows that we've cut the energy consumption of our buildings by 45% since 1992, for total savings of $156.2 million.

Downtown Montréal during a winter peak.

En route for energy savings with the Eddyfi project

Serving clients in more than 110 countries, Eddyfi Technologies provides Non-Destructive Testing (NDT) equipment such as probes, instruments and software for the inspection of critical components. Located in the city of Québec, the company's new 4,650-m² industrial complex incorporates a host of major energy efficiency measures: triple glazing, aerothermal heating and cooling, variable flow heat pumps, temperature reductions during unoccupied periods, variable frequency fans, energy recovery ventilation and LED lighting. A heated floor powered by natural gas provides auxiliary heating (8,500 m³/year).

Hydro-Québec contributed $62,000 to this project for the implementation of efficiency measures that will enable electricity savings of close to 413,000 kWh, equivalent to the power consumption of 17 homes.

Energy efficiency results – Administrative buildings (kWh/m² gross)

	2017	2018	2019	2020
Average energy consumption	230	229	233	222

Exclusive web content

- Eliminating air leaks and insulating your home
- ENERGY WISE (residential customers)
- Energy efficiency programs (business customers)
- Québec's Energy Transition Master Plan

Strategy 11 – **Enhance and protect biodiversity**

PROGRESS REPORT

Target 11.1: Develop a corporate strategy for enhancing and protecting biodiversity

Indicator: Development of a biodiversity enhancement and protection strategy in 2020

Status: Development of the strategy postponed to 2021

Indicator: Progress on actions identified in the strategy (2021–2024) (%)

Status: N/A

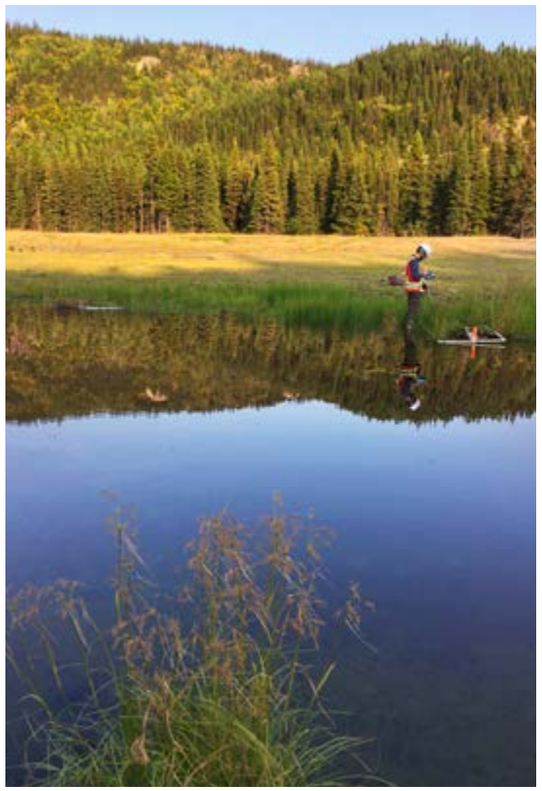
The Earth's biodiversity is disappearing at an alarming rate—and the decline is increasingly affecting both the planetary balance and human health. Biodiversity loss is largely driven by the development and pollution of natural environments.

Since the late 1990s, all of our operations that stand to impact the environment are governed by ISO 14001-compliant environmental management. Our development projects and facilities in operation are thus subject to close environmental monitoring and follow-up.

Transformation of natural environments

Climate change contributes significantly to the modification of natural environments, but infrastructure development also plays a major role. Building hydroelectric complexes and the flooding this entails transform large swaths of the natural world. Fortunately, in the boreal region, apart from turning a terrestrial habitat into an aquatic one, reservoir impoundment has very little impact on the richness and diversity of fish populations. The same goes for building transmission lines: while power line rights-of-way modify the natural environment, they also create permanent linear shrub habitats that support many species.

Before starting an infrastructure project, Hydro-Québec produces a thorough inventory of the plant and animal species in the targeted area. Once this process is complete, we determine how various ecosystems can be protected and ensure that the developed areas compare with the surrounding natural environments in terms of species diversity and biological productivity.



Spawning ground developed at Romaine-1 generating station. As part of the Romaine project, Hydro-Québec committed to creating 60 hectares of wetlands in abandoned sandpits.

Examples of biodiversity protection in our projects

Mitis-2

For returning salmon, Mitis-2 dam and Mitis-1 natural falls in the Bas-Saint-Laurent region present two insurmountable obstacles. After temporarily shutting down Mitis-2 generating station, we invested $5.2 million in building a permanent salmon trap in the riverbed. The system includes a fish ladder, essentially a series of shallow cascades through which the fish ascend to the trap. The captured salmon are then transported 15 km upstream by tanker truck. In 2020, 1,627 salmon were captured and relocated, ensuring the ongoing development of this resource and maintaining the local economic spinoffs related to sport fishing.

Romaine-4

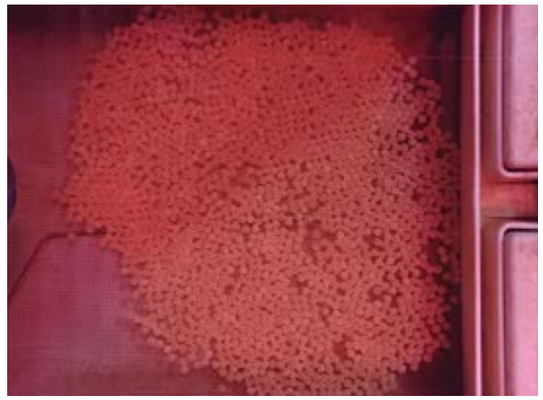
The enhancement program for landlocked salmon in the Romaine-4 area continued, with some 9,000 fry released into the reservoir's two tributaries. In fall, the number of eggs (120,000) produced and incubated at the fish farm of the Société saumon de la rivière Romaine was higher than expected.

Appalaches–Maine line

To mitigate the impact of the Appalaches–Maine line, and especially its effects on plants and wildlife, we designed a new tower that reduces the width of the right-of-way by 10 m. We also paired the future line with an existing line for 66% of its route. Wildlife inventories indicated the presence of spring salamander, a threatened species, in two streams. In addition to the mitigation measures that will be applied during clearing, we plan to reforest the banks with compatible species and install an amphibian-friendly streambank once the work is completed. The effectiveness of these measures will be assessed over a five-year period.

Retaining wall at Simon–Sicard dam

Between late 2019 and summer 2020, as part of the retaining wall refurbishment project at Simon-Sicard dam (Rivière-des-Prairies development), we rehabilitated a section of the project area by setting up an aquatic grass bed (École Sophie-Barat sector) and a riparian strip. Native aquatic species rooted in coir and loam were introduced. In the coming years, we will monitor plant growth to ascertain the condition of the grass bed and its use by aquatic wildlife. The riparian strip was planted with spiraea and northern bush honeysuckle: two species that, once mature, will cover the ground without obstructing the view of the river from the shore.



Counting the landlocked salmon eggs incubating at the fish farm of the Société saumon de la rivière Romaine.

The lake trout enhancement program is ongoing in Romaine 1 reservoir. In June, the reservoir was stocked with 76,400 fish by helicopter.

Maintaining biodiversity in rights-of-way

Linear infrastructure like power lines frequently serve as corridors for human and animal movement, which can make them vulnerable to invasion by undesirable plant and wildlife species. To prevent this type of invasion, we apply a range of measures that promote biodiversity.

As part of the Gardiens des pollinisateurs program, a joint initiative between the Miel Montréal co-op and the Conseil régional de l'environnement de Montréal, we helped develop a garden of bee-friendly flowers in the right-of-way of a 315-kV power line in the Rivière-des-Prairies–Pointe-aux-Trembles borough.

Throughout summer and fall 2020, we cleared 400 metres of distribution line rights-of-way in Laval and nearly 1.75 hectares of transmission line rights-of-way in eastern Montréal to test goldenrod and yarrow seeds alongside other species. The experiment seeks to establish whether these two species can prevent the growth of nuisance plants that are harmful to the system, thus lessening the need for traditional vegetation control.

Coexistence of trees and the distribution system

In the fall, 180 trees from six species were planted for the first phase of a study that will test different tree growth control methods with the aim of improving vegetation control practices. The study's findings will also be used to: help reduce costs associated with pruning and tree-related damage to the distribution system; maintain or increase plant cover biodiversity in municipalities, which will help build resilience to disease, pests and weather events; and support municipalities seeking to increase their canopy coverage. The project is being carried out with students and research professionals associated with the NSERC–Hydro-Québec Industrial Research Chair on Control of Tree Growth, and in partnership with the city of Saint-Bruno-de-Montarville.

Planting pollinator-friendly species in the right-of-way of a 315-kV line in Pointe-aux-Trembles. This project is part of the Gardiens des pollinisateurs program, jointly developed by the Miel Montréal co-op and the Conseil régional de l'environnement de Montréal.

Planting trees on the grounds of the Saint-Bruno-de-Montarville administrative center (Montérégie).

Video

ILEAU – Local environmental and urban development enhancements (in French only)

[running time: 6 min 18 s]

Special measures along the Micoua–Saguenay line

Five 735-kV lines commissioned between 1965 and 1973 carry the power generated in the Côte-Nord region to the province's major load centers. To maintain grid reliability, we are building a new 735-kV line between Micoua substation in the Côte-Nord region and Saguenay substation in Saguenay–Lac-Saint-Jean.

Woodland caribou

Overall, construction of the Micoua-Saguenay line will not significantly impact the demographics of the Pipmuacan woodland caribou herd, since its habitat is already very disrupted. Locally, however, the project may affect the animal's behavior by modifying its use of space, particularly in terms of crossing the line right-of-way. To mitigate the impact, clearing will be vastly reduced over part of the right-of-way through an innovative measure for preserving mature trees. The measure, which consists of raising the conductors over a distance of roughly 10 km, will allow us to maintain a connectivity corridor between high-quality forests northwest of the line and the biodiversity reserve southeast of it. An environmental follow-up has been planned to determine the effectiveness of this innovative measure. Finally, throughout the herd's range, the width of the new access roads built will be reduced after construction (when the extra width is no longer required) through reforestation.

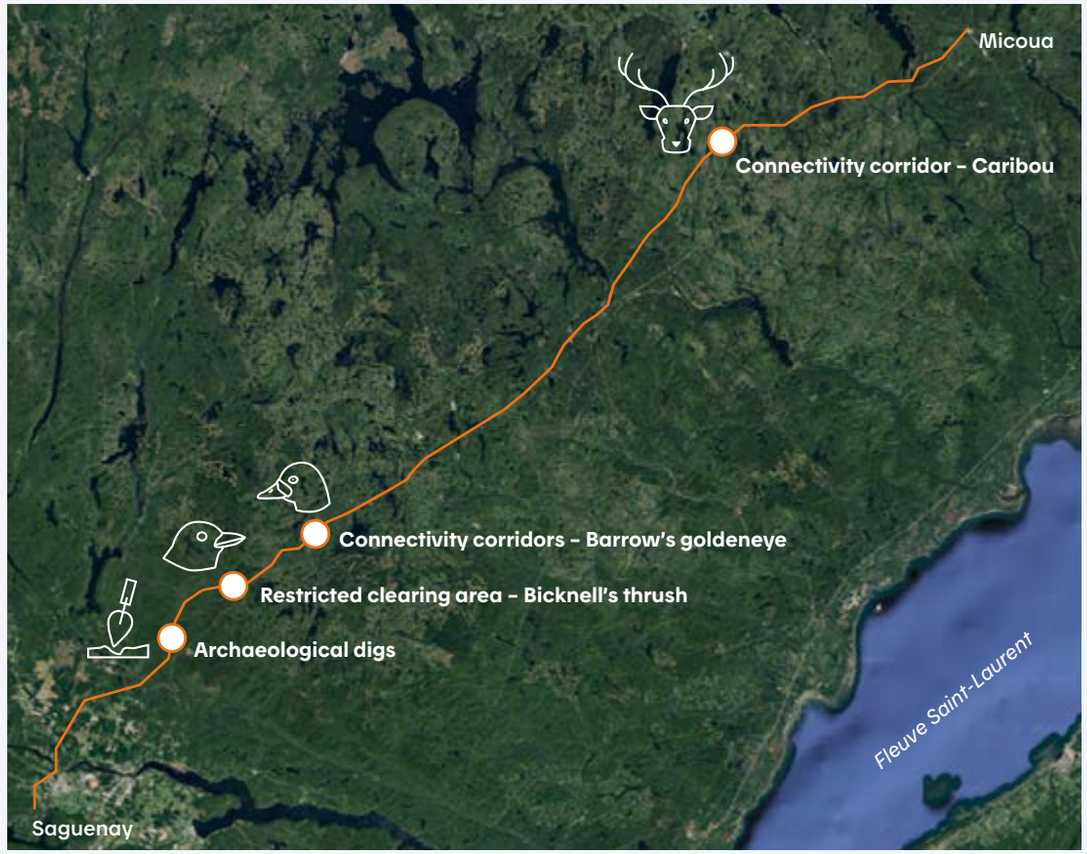
Bicknell's thrush and Barrow's goldeneye

Clearing for this line project will also have an impact on two vulnerable bird species: Bicknell's thrush and Barrow's goldeneye. Bicknell's thrush nests at altitudes of over 600 m in dense stands dominated by balsam fir; Barrow's goldeneye is a duck found in small (< 15 ha) lakes with few fish located at high altitudes.

Specific measures

Archaeological digs

For the third year running, we mandated the consulting firm Arkéos to inventory and conduct archaeological digs at two paleohistoric sites in the right-of-way of the future 735-kV Micoua–Saguenay line. The Innu community of Mashteuiatsh was actively involved in the work. In 2020, the digs were concentrated in the MRC du Fjord-du-Saguenay. The first site, along the banks of the Rivière Bras-du-Nord, brought to light more than 500 stone fragments attesting to tool-carving activity. The archaeologists also unearthed a firepit that would have been used for cooking. The bone remains of beavers, porcupines, deer and moose were found among the food scraps. Carbon-14 dating has established the site's age at over 550 years. The second site, which is near the Rivière Saint-Louis, has yielded over 2,000 stone fragments to date, along with fragmentary tools and a polished stone pendant. Laboratory findings date the site back over 2,900 years.



Strategy 12 – **Reduce resource use by applying the principles of the circular economy**

PROGRESS REPORT

Target 12.1: Draft and deploy a logistics strategy that applies the best practices of the circular economy

Indicator: Development of a logistics strategy in 2020

Status: Developed a logistics strategy for material and transportation that integrates circular economy initiatives ⊕

Indicator: Progress on the actions identified in the strategy (2021–2024) (%)

Status: N/A

Target 12.2: Use tools to integrate a total cost analysis (TCA) of goods and services at time of procurement into our governance

Indicator: Number and value of goods and services for which a TCA has been integrated

Status: Adopted new guidelines for the integration of total ownership costs ⊕

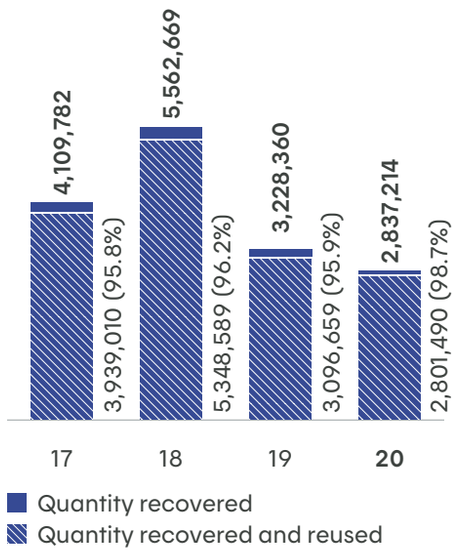
The circular economy is an economic model that aims to reduce and optimize the use of resources in order to protect the ecosystems that generate them. Globally, very few extracted resources are currently put back into the economy after use. In this sense, Hydro-Québec's business model has long corresponded to a certain form of circular economics.

However, to support our main operations, we use equipment, machinery, buildings and other infrastructure, which could be designed and managed in ways that are more in line with circular economy principles. That's why we want to integrate the best practices of the circular economy into the supply, transportation, storage and reclamation of the goods we need to carry out our activities and projects.

We also invest a great deal of effort into responsibly managing the residual materials we generate through reduction-at-source, reuse, recycling and reclamation programs.

We have achieved excellent results with the recycling of the insulating oils used in power transformers and shunt reactors. These oils have a near-unlimited service life at Hydro-Québec, since they are more than 97% recycled.

Recovery and reuse of insulating oil (litres)



Recovered oil suffices for all the company's requirements. The oil is decontaminated and regenerated for reuse in equipment. Oil that cannot be regenerated is reclaimed as energy.

A second life for wooden poles ⊕

Audited performance metrics

	Results			
Indicators	2017	2018	2019	2020
Environment				
Power generated – Hydropower (GWh)	176,785	175,232	175,086	171,162
Power generated – Thermal (GWh)	305	312	318	310
Power purchased – Hydropower (GWh)	31,610	35,913	34,500	32,843
Power purchased – Wind (GWh)	9,634	11,276	11,827	10,991
Power purchased – Biomass/waste reclamation (GWh)	2,021	2,038	1,939	1,837
Power purchased – Other (GWh)	741	668	1,340	1,152
Power purchased – Total (GWh)	44,006	49,895	49,606	46,823
Total renewables purchased from independent producers (GWh)	14,850	16,113	16,427	16,410
Total renewables (generated and purchased) (GWh)	220,050	224,459	223,352	216,833
Power from renewable sources delivered to customers (%)[a]	99.8	99.8	99.6	99.6
Volume of electricity purchased outside Québec (GWh)	27,037	31,749	31,600	29,154
Net electricity generated by Hydro-Québec (GWh)	177,091	175,546	175,404	171,472
Total net electricity generated and purchased (GWh)	221,097	225,439	225,010	218,296
Net electricity exports (TWh)	34.4	36.1	33.7	31.3
Emissions avoided by net electricity exports (t CO_2 eq.)	8,362,305	7,901,691	6,880,394	6,611,235
Renewable energy certificates sold to third parties (GWh)	839	635	649	1,232
Interconnection import capacity (MW/number)	6,025/15	5,975/15	6,025/15	6,025/15
Interconnection export capacity (MW/number)	7,974/15	8,212/15	7,974/15	8,145/15
Reduction in GHG emissions since 1990 (%)	91	90	90	90
Reduction in GHG emissions since 1990 (direct sources) (%)	79	73	72	73
Reduction in GHG emissions since 1990 (indirect sources) (%)	95	96	96	96
Avoided GHG emissions in Québec (% of Québec government target for 2030 compared to 1990 emission level) *2020 target: 14 2024 target: 17*	–	–	14	14
GHG emissions from vehicle fleet (t CO_2 eq.)/total number of vehicles as at December 31	51,063/5,174	51,785/5,236	50,131/5,723	43,943/5,805
GHG emissions from light-vehicle fleet (t CO_2 eq.)/number of light vehicles as at December 31 *2020 target: 24,302*	21,532/3,603	21,215/3,653	20,346/4,037	18,162/4,132
Number of hybrid and plug-in light vehicles as at December 31 *2020 target: 500 2025 target: 1,000*	150	294	399	561
Reduction in winter peak thanks to business customer participation in our Demand Response program (MW)	183	287	280	297
Energy efficiency initiatives: Energy saved – Residential customers (GWh)	200	207	211	225
Energy efficiency initiatives: Energy saved – Business customers (GWh)	321	245	257	218
Energy efficiency initiatives: Energy saved – Off-grid systems (GWh)	3	3	10	0.3
Energy efficiency initiatives: Total energy savings (GWh)	524	455	478	443
Energy efficiency results – Administrative buildings (kWh/m² gross)	230	229	233	222
Reduction in administrative building power demand during winter peaks (number of buildings/kW)	41/4,959	41/5,941	38/7,259	41/10,431
Accidental spills reported to the authorities (number)	1,143	1,262	1,365	1,122
Environmental noncompliance notices (number)	45	26	27	11

a) Excludes generating stations supplying off-grid systems.

Audited performance metrics

		Results			
Indicators		**2017**	**2018**	**2019**	**2020**
Insulating oil recovered (thousands of litres)/reuse (%)		4,110/95.8	5,563/96.2	3,228/95.9	2,837/98.7
Water withdrawn (millions of m^3)[b]		45	9	3	3
Area of transmission line rights-of-way treated mechanically (%)		95	95	93	93
Area of dikes and dams treated mechanically (%)		52	46	73	71
NO_x emissions from thermal electricity generation (t)		3,991	4,124	4,154	4,214
SO_2 emissions from thermal electricity generation (t)		1,008	1,180	1,169	1,180
Atmospheric emissions from electricity generation and purchases compared to the regional average – CO_2 (number of times less)		378	325	323	334
Atmospheric emissions from electricity generation and purchases compared to the regional average – SO_2 (number of times less)		155	153	282	315
Atmospheric emissions from electricity generation and purchases compared to the regional average – NO_x (number of times less)		287	240	253	269
Carbon footprint (t CO_2 eq.)					
Direct sources (scope 1)					
Generating stations	Thermal power plants	227,805	234,441	235,855	228,074
Mobile sources	Vehicle fleet	51,063	51,785	50,131	43,943
	Aircraft fleet	13,569	13,516	12,941	13,605
	Utility vehicles (e.g., snowmobiles, tractors, snowblowers)	927	941	1,068	890
	Propane-fueled lift trucks	89	83	88	68
Fuel use	System maintenance generators	3,869	4,205	14,656	4,699
	Emergency and jobsite generators	525	666	554	710
	Building heating	458	673	1,118	966
Other uses	Equipment containing CF_4 and SF_6	22,284	63,009	37,527	74,258
	Aerosols	412	428	258	382
	Equipment containing HFCs	990	599	459	714
	Synchronous compensators	24	24	24	24
Indirect sources (scope 2)					
Energy losses	Power transmission and distribution system losses	7,890	8,347	7,415	6,662
Indirect sources (scope 3)					
	Electricity purchases[c]	108,400	107,907	100,365	93,224
	Business travel – Employee personal vehicles	5,581	5,508	5,153	2,818
	Vehicles leased long-term	1,227	2,265	2,134	1,967
	Business travel – Trains	12	14	15	3
	Business travel – Commercial airlines	932	1,762	1,743	351
	Helicopters	3,982	4,032	5,079	2,620
	Chartered airplanes	4,876	4,784	4,796	3,878
	Life cycle of fuel	50,851	50,863	52,639	48,887
Total emissions					
	Direct sources (scope 1)	321,956	370,370	354,680	368,332
	Indirect sources (scope 2)	7,890	8,347	7,415	6,662
	Indirect sources (scope 3)	175,861	177,076	171,924	153,748
	Direct and indirect sources	505,669	555,853	534,019	528,742

b) According to *the Regulation respecting the declaration of water withdrawals*, which applies to thermal generating stations and some workcamps using more than 75 m^3 of water per day (excludes withdrawals for PPG Canada).

c) For 2020, a new method taking import times into account was used to more accurately calculate GHG emissions related to electricity purchases from neighboring systems. The data for 2018 and 2019 were also recalculated using the new method. Therefore, past results cannot be compared.

Audited performance metrics

Indicators	Results 2017	2018	2019	2020
Social				
Access-to-information requests processed	428	565	509	455
Overall reputation score *2020 target: 9.95*	–	–	7	7.38
Sustainable employee engagement index (%)[d]	–	85	84	87
Overall public satisfaction – Very and quite satisfied (%) *2020 target: ≥ 90*	92	93	94	96
Customer satisfaction index – Combined index (scale of 10) *2020 target: 8.3*	8.2	8.2	8.3	8.3
Average call wait time (customer relations centers) (seconds) *2020 target: <110*	84	87	104	96
System average interruption duration index (SAIDI) – Distribution system (min/customer)	278	411	720	256
System average interruption duration index (SAIDI) – Transmission system (min/customer)	44	26	41	49
Special payment arrangements for low-income customers (number)	106,438	92,882	94,924	36,020
Special payment arrangements for all residential customers (number)	366,839	373,749	378,836	224,157
Customer claims (number)	3,297	4,031	3,501	2,517
Customer complaints (number)	2,914	2,740	2,231	1,611
Complaints appealed to the Régie de l'énergie	85	99	90	42
Employee Assistance Program – Number of cases opened	2,471	2,489	2,644	2,437
Near misses/potentially serious incidents (PSIs) (number) *2020 target: 271*	-	297	291	245
Field observations (number) *2020 target: 20,342*	-	23,675	23,699	31,439
Work-related accident frequency (per 200,000 hours worked)[e] *2020 target: 1.45*	2.00	2.01	1.97	1.40
Electrical accidents – Incidents (number)	212	222	199	202
Electrical accidents – Deaths (number)	5	3	4	4
Percentage of payroll invested in training	3.1	3.1	2.8	2.4
Donations and sponsorships (number of organizations/$M)[f]	607/19.1	601/19.1	576/18.9	450/19.3
Economy				
Number of patents related to energy storage and conversion (held/pending)	552/246	533/284	564/378	812/455
Number of patents related to innovation (held/pending)	240/85	275/69	173/50	160/40
Total procurement of goods and services from Québec-based companies ($M)/Québec only (%)	3,170/92	2,883/91	3,115/92	3,022/90
Revenue from electricity sales inside and outside Québec ($M)[g]	13,414	13,865	13,939	13,324
Rate increases (%)[h]	0.7	0.3	0.9	N/A
Contribution to Québec's gross domestic product (GDP) ($B)[i] *2024 target: 23.4*	–	–	20.7	20.7
Net income ($M)[g]	2,846	3,192	2,923	2,303
Dividend ($M)[g]	2,135	2,394	2,192	1,727
Water-power royalties ($M)[g]	701	705	720	716
Public utilities tax ($M)[g]	284	298	299	304
Municipal and school taxes ($M)[g]	38	39	40	40
Funding for educational institutions – Contributions, research chair funding and research contracts ($M)	7.1	7.8	6.8	7.5

d) Revised in 2018, the survey now titled *Notre énergie, notre engagement* presents results that cannot be compared with those of previous years since they were established on new bases.

e) Since January 2018, the company has recorded accidents involving loss of time and temporary assignment. As a result, the new rate cannot be compared to those of previous years, except for the 2017 rate, which was recalculated using the new method.

f) Includes Hydro-Québec's donation to Centraide.

g) Information taken from Hydro-Québec's *Annual Report 2020* and verified in a separate audit.

h) April 1 rate adjustment corresponding to the rate increase for all customers, except large-power industrial customers (Rate L).

i) Preliminary data based on the most recent information available when this report was published.

Accountability in compliance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD)

Impact of climate change on Hydro-Québec's operations

Hydro-Québec is feeling the effects of climate change. Seasonal demand for electricity is closely linked to climate conditions; hydropower generation depends on precipitation and natural inflows; and our system equipment is exposed to the vagaries of the weather. Extreme weather events can therefore pose a threat to our infrastructure and consequently to service continuity and reliability. For example, changes in wind conditions can have an impact on our power transmission and distribution infrastructure. Fluctuations in flood regimes can affect our hydropower output and make reservoir management more complex. Climate change can also have repercussions on plants and wildlife and make working conditions harder for our employees—for example, during heat waves.

Examples of the impact of climate change on Hydro-Québec operations ⊕

For close to 20 years now, working with Ouranos—a research consortium we helped found—we have been studying various scenarios to better understand the impact of climate change on our operations and infrastructure.

Faced with growing evidence of the effects of climate change and extreme weather on our operations, we added climate change to our risk portfolio in 2018. To adapt to these new risks, we plan to change the way we design our equipment and manage our infrastructure and operations.

In 2020, we performed a vulnerability assessment of our assets and operations in regard to climate change. The results will help us develop a climate change adaption plan that sets out our priorities (short, medium and long term) and takes account of vulnerabilities associated with our current and future climate. Implementing the plan by 2022 is one of the targets of Strategy 6 of the *Sustainable Development Plan 2020–2024*. It will go hand in hand with an awareness and training program for employees.

The work carried out in 2020 enabled us to develop a vulnerability analysis method, identify the asset categories and operations threatened by climate change, set criteria for assessing threat levels and select the variables to be used in prioritizing risks with a view to establishing mitigation and adaptation measures.

The vulnerability assessment process followed the principles set out by existing standards and best practices, particularly in its compliance with standards ISO 31000:2018 – Risk Management, ISO 14090:2019 – Adaptation to Climate Change, ISO/DIS 14091 (a draft international standard) and Engineers Canada's PIEVC Protocol.

The method is also consistent with the principles outlined in various guides recommended by industry or government organizations, in particular the following:

- *Hydropower Sector Climate Resilience Guide* (2019), International Hydropower Association
- *Climate Lens – General Guidance* (2019), Infrastructure Canada
- *Adapting to Climate Change, a Risk Management Guide for Utilities* (2017), Canadian Electricity Association
- *Changements climatiques : Vulnérabilité et adaptation des immeubles* (2017), Gouvernement du Québec, Ouranos
- *Climate Change Impacts, Adaptation and Vulnerability – Summary for Policymakers*. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) (2014)

Use of scenarios

To model climate change, we used two representative concentration pathways (RCPs), each providing a different scenario of how concentrations of greenhouse gases will change in the future: RCP 8.5, or the status quo scenario, which assumes that companies will continue to produce the same quantity of GHG as in preceding decades, and RCP 4.5, which assumes that GHG emissions will decline significantly in line with reduction targets. The "recent climate" timeline is based on the period from 1981 to 2010, as per the 2017 recommendation of the World Meteorological Organization (WMO) for the calculation of climate normals. The "future climate" timelines used for the vulnerability assessment are also based on asset service life and the intervention cycles for Hydro-Québec's operations.

Because Québec is very large and the effects of climate change vary throughout the territory, five climate zones were used to calculate average values for different climate parameters and the associated probabilities. This approach will provide a more complete and accurate portrait of the risks we face.

Following the adoption of this first adaptation plan, which will be updated as required, the adaptation measures for risks identified as top priorities will be determined.

Impact of Hydro-Québec's operations on climate change

Since the late 1990s, Hydro-Québec has used ISO 14001-certified environmental management systems to guide any company operations (including those that generate GHG emissions) that could potentially affect the environment.

If climate change influences our strategies and actions, the reverse is also true: many of those strategies could, in turn, have a positive effect on global climate change. Québec's abundance of low-carbon energy presents excellent business opportunities in the short and medium term. For example, our hydropower could quickly and effectively help decarbonize northeastern North America. Our clean energy also attracts energy-intensive businesses like data centers to Québec. Lastly, it compares favorably to other energy sources across numerous sectors, from industrial processes to transportation and heating.

Governance

Faced with the urgency of climate change, senior management and the Board of Directors adopted an adaptation response in 2019 and formed various working committees to tackle the following issues:

- Climate change directly impacts our core mission of ensuring reliable electrical service at the best possible price.
- Employees must adapt to the realities of climate change; the company, in turn, must adapt its assets and operations.
- Our climate modeling must incorporate new variables to provide a better understanding of future climate change and its impact on our facilities and customers.
- Successfully completing our many projects that are currently starting up or ongoing will require the full cooperation of all of our units.
- We must also adapt to changing laws and regulations.

We have established cross-functional committees with members from all administrative units. These diverse teams of experts work together to identify the elements that face the greatest risk, select the climate parameters with the greatest impact, and evaluate that impact.

These committees are also tasked with reviewing our approach and its consistency from a cross-functional perspective across all relevant administrative units. Specialized occupational health and safety resources also took part in the vulnerability assessment to ensure that the impact of climate change on employees and public health and safety was taken into account.

Hydro-Québec's Management Committee monitors climate risk management and the work in progress on a quarterly basis, while the working committees meet at varying frequencies. Four committees, each bringing together representatives from different business units, address specific concerns.

Working committees

Committee type	Mandate	Meetings
Steering Committee	› Track project progress › Set priorities and management strategies › Validate reports to the Management Committee	6
Coordinating committee	› Coordinate the company's overall approach › Validate the vulnerability approach and the choice of adaptation measures › Share best practices, etc.	25
Technical and scientific orientation committees	› Identify the studies required › Provide input on the vulnerability assessment, choice of adaptation measures and adaptation plan › Test and comment on tools (e.g., vulnerability grid)	22
Administrative unit adaptation committees	› Assess the vulnerability of assets and unit operations	55

Strategy

The four main strategies laid out in our *Strategic Plan 2020–2024* are directly linked to the issue of climate change.

Strategic Plan strategies

Strategy	Link to climate change
Electrify Québec and be a leader of the energy transition.	**Opportunity** Low-carbon electricity promotes electric mobility. Converting fossil fuel-burning systems to electricity helps reduce GHG emissions. We have started converting our off-grid systems to cleaner sources of energy.
Seize growth opportunities in Québec and beyond our borders.	**Opportunity** A clean and abundant energy supply is attractive to energy-intensive industries like data and computing centers seeking to reduce their carbon footprint. It also makes new long-term power purchase agreements a possibility. The load balancing capability of our hydropower generating fleet supports the growth of intermittent renewables like wind and solar.
Develop a culture focused on customers and occupational health and safety.	**Opportunity** Roll out a range of services and customer programs adapted to climate change. **Risk** Our infrastructures are distributed over a vast territory and are very sensitive to weather. We must continue to keep the grid reliable and offer quality service at the lowest possible cost.
Continuously improve our operating performance.	**Opportunity** Leverage the existing synergies between teams, particularly regarding expertise and maintaining company assets. Keep power system technologies up to date. **Risk** Since inaction will invariably prove more costly, an adaptation plan is vital to better understanding climate change and mitigating the associated risks. We must raise grid resilience, protect the physical integrity of at-risk facilities and adjust the way we operate our most vulnerable assets. There are foreseeable impacts on our planning and on the design, construction and operation of our structures.

Risk management

Certain mechanisms for ensuring climate-sensitive decision-making remain to be developed. They include the following:

- Monitoring the implementation and effectiveness of the measures laid out in the adaptation plan and tracking plan progress
- Gradually integrating climate risk considerations into our risk-management processes and tools and our internal guidelines as they are updated
- Identifying the guidelines and decision-support tools requiring modification and developing a revision strategy

Indicators and targets

Acting locally and internationally, Hydro-Québec intends to remain an energy transition leader by offering solutions for transportation electrification and converting systems powered by fossil fuels to electricity. We're also taking action to reduce GHG emissions across the continent, including by exporting clean energy to neighboring markets. To achieve these goals, we have set ourselves ambitious targets.

GHG emission reduction indicators and targets

Indicator	Target
Avoided GHG emissions in Québec (% of Québec government target for 2030 compared to 1990 emission level)	2024 target: 17%
GHG emissions avoided through our long-term export contracts (Mt CO_2 eq.)	2024 target: 4.6 Mt CO_2 eq.
Direct emissions from Hydro-Québec operations	2027 target: 35% reduction
Carbon-neutral status	2030 target: carbon neutrality

Go to the carbon footprint page

Communication on progress

After joining the United Nations Global Compact in 2004, Hydro-Québec remained a member until it sold all of its international interests and based its operations exclusively in Québec.

In 2018, to affirm our sustainability leadership and look toward joining the ranks of the world's most environmentally responsible companies, we renewed our engagement. This commitment involves pledging to communicate our progress with regard to the compact's Ten Principles, which are grouped around four areas: human rights, labor standards, environmental protection and the fight against corruption.

Sustainable Development Plan 2020–2024

This past year saw the launch of our *Sustainable Development Plan 2020–2024: Drawing on the Past to Shape the Future*. The plan upholds the United Nations Development Programme's sustainable development goals that most closely reflect our industry and projects. We have accordingly identified 8 goals and 18 targets to help us step up our efforts to apply the United Nations Global Compact principles in each of the four areas.

While every section of this Report provides a general picture of our results, the Sustainable Development Plan details the targets and indicators that pertain to each of its 12 strategies. We report on the Plan's progress and where we are vis-à-vis its goals in this publication.

In our actions and decisions, we are making every effort to:

- Better integrate sustainability principles into our operations and improve our sustainability performance
- Continue the dialogue with our stakeholders
- Improve the overall impact of our activities with respect to sustainable development

Human rights

Go to pages 23 and 24

Labor

Go to pages 25 to 32

Environment

Go to pages 55 to 78

Anti-corruption

Go to pages 23 and 24

GRI content index for 'In Accordance'

Core

General disclosures

No.	General disclosures	Page	Comments and responses
GRI 101: Foundation 2016			
GRI 101 does not require any particular disclosure			
GRI 102: General Disclosures 2016			
Organizational profile			
GRI 102-1	Name of the organization	1, 4	
GRI 102-2	Activities, brands, products and services	4, 11, 12	
GRI 102-3	Location of headquarters	94	
GRI 102-4	Location of operations	4, 12	
GRI 102-5	Ownership and legal form		Division II of the *Hydro-Québec Act*, "Constitution of the Company," sets out the nature of Hydro-Québec's ownership and legal form.
GRI 102-6	Markets served	4, 12	
GRI 102-7	Scale of the organization	4, 12, 35, 81	
GRI 102-8	Information on employees and other workers	4, 12	Workforce numbers based on contract type are not available. Total numbers of outside workers by employment type, employment contract and region are not available.
GRI 102-9	Supply chain	7, 38, 39	
GRI 102-10	Significant changes to the organization and its supply chain		No significant changes related to this indicator occurred in 2020.
GRI 102-11	Precautionary Principle or approach	61, 74-77	
GRI 102-12	External initiatives	8, 18-20, 24	
GRI 102-13	Memberships of associations	13	
Strategy and Analysis			
GRI 102-14	Statement from senior decision-maker	5, 6	
GRI 102-15	Key impacts, risks and opportunities	11, 79-81	
Ethics and integrity			
GRI 102-16	Values, principles, standards, and norms of behavior	16, 18	
Governance			
GRI 102-18	Governance structure	16.18	
GRI 102-22	Composition of the highest governance body and its committees	16-18	
GRI 102-23	Chair of the highest governance body	16-18	
GRI 102-24	Nominating and selecting the highest governance body	17	
GRI 102-32	Highest governance body's role in sustainability reporting	16	
Stakeholder engagement			
GRI 102-40	List of stakeholder groups	15, 34, 56	
GRI 102-41	Collective bargaining agreements	87	The percentage of outside workers covered by a collective agreement is not available (sector supplement).

GRI MATERIALITY DISCLOSURES SERVICE 2021

With regard to the *Materiality Disclosures Service*, the GRI has established that the presentation of the GRI content index is clear and that the references shown for disclosures 102-40 to 102-49 refer to the corresponding sections in the body of this report. This service was applied to the French version of the report.

GRI content index for 'In Accordance'

Core

General disclosures

No.	General disclosures	Page	Comments and responses
GRI 102-42	Identifying and selecting stakeholders	7, 9, 10, 15, 34, 56	
GRI 102-43	Approach to stakeholder engagement	7, 9, 10	
GRI 102-44	Key topics and concerns raised	10, 15, 34, 56	
Reporting practice			
GRI 102-45	Entities included in the consolidated financial statements	8, 11	
GRI 102-46	Defining report content and topic Boundaries	10	
GRI 102-47	List of material topics	10, 15, 34, 56	
GRI 102-48	Restatements of information	80	A new method taking import times into account was used to more accurately calculate GHG emissions related to electricity purchases from neighboring systems.
GRI 102-49	Changes in reporting		There has been no significant change with respect to reporting periods, list of material topics or topic boundaries.
GRI 102-50	Reporting period	8	
GRI 102-51	Date of most recent report		The *Sustainability Report 2019* was published in May 2020.
GRI 102-52	Reporting cycle	8	
GRI 102-53	Contact point for questions regarding the report	94	
GRI 102-54	Claims of reporting in accordance with the GRI Standards	8	
GRI 102-55	GRI content index	88-91	
GRI 102-56	External assurance	92-93	
Electric utilities sector disclosures			
EU1	Installed capacity	4, 11, 12	
EU2	Net energy output	68, 79	
EU3	Number of customers	11, 12, 52	
EU4	Length of transmission and distribution lines	4, 11, 12	
EU5	Allocation of CO_2 emissions allowances or equivalent	57	
Management approach			
GRI 103: Management approach 2016			
GRI 103-1	Explanation of the material topic and its Boundary	9, 10, 11, 15, 34, 56	
GRI 103-2	The management approach and its components	16, 23, 25, 28, 35, 40, 44, 53, 57, 67, 74, 78	
GRI 103-3	Evaluation of the management approach	79, 80, 81	

GRI content index for 'In Accordance'

Core

General disclosures

No.	General disclosures	Page	Comments and responses
Economic			
GRI 201: Economic performance 2016			
GRI 201-1	Direct economic value generated and distributed	11, 12, 35, 37, 39, 81	Salaries and employee benefits are considered confidential information and are not released.
GRI 201-2	Financial implications and other risks and opportunities due to climate change	40, 41, 43, 82-86	
GRI 203: Indirect economic impacts 2016			
GRI 203-1	Infrastructure investments and services supported	38, 61	
GRI 203-2	Significant indirect economic impacts	11, 35, 41, 81	
GRI 204: Procurement practices 2016			
GRI 204-1	Proportion of spending on local suppliers	12, 38, 39	
Aspect: Availability and reliability (electric utilities sector disclosures)			
EU10	Planned capacity against projected electricity demand over the long term	68	
Environment			
GRI 301: Materials 2016			
GRI 301-1	Materials used by weight or volume		Hydro-Québec does not measure the weight or volume of recycled materials used.
GRI 301-2	Recycled input materials used		
GRI 302: Energy 2016			
GRI 302-4	Reduction of energy consumption	70-73, 79	
GRI 303: Water 2018			
GRI 303-3	Water withdrawal	80	
GRI 304: Biodiversity 2016			
GRI 304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	74-77	
GRI 305: Emissions 2016			
GRI 305-1	Direct (Scope 1) GHG emissions	57, 58, 60, 80	
GRI 305-2	Energy indirect (Scope 2) GHG emissions	60, 80	
GRI 305-3	Other indirect (Scope 3) GHG emissions	60, 80	
GRI 305-4	GHG emissions intensity	60, 80	
GRI 305-5	Reduction of GHG emissions	57, 58, 60	
GRI 305-7	Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions	60, 80	

GRI content index for 'In Accordance'

Core

General disclosures

No.	General disclosures	Page	Comments and responses
GRI 306: Waste 2020			
GRI 306-3	Waste generated	79	
GRI 307: Environmental compliance 2016			
GRI 307-1	Noncompliance with environmental laws and regulations	79	
Social – Labor practices and decent work			
GRI 403: Occupational health and safety 2018			
GRI 403-9	Work-related injuries	27, 81	Hydro-Québec discloses only the work-related accident rate. Other information for this indicator is confidential.
GRI 405: Diversity and equal opportunity 2016			
GRI 405-1	Diversity of governance bodies and employees	28, 29, 31	
Social – Society			
GRI 413: Local communities 2016			
GRI 413-1	Operations with local community engagement, impact assessments, and development programs	38, 39, 50	
GRI 413-2	Operations with significant actual and potential negative impacts on local communities	12, 46	
Social – Product responsibility			
Aspect: Customer health and safety			
EU25	Injuries and fatalities	51	Information about court decisions, out-of-court settlements and ongoing suits related to disease cases is not available.
GRI 417: Marketing and labeling 2016			
GRI 417-1	Requirements for product and service information and labeling	60, 80	
Aspect: Access (electric utilities sector disclosures)			
EU29	Average power outage duration	40, 81	

External assurance

Evaluation of Hydro-Québec's *Sustainability Report 2020*

Mandate

GHD was engaged to conduct an independent evaluation of Hydro-Québec's *Sustainability Report 2020*, particularly the reliability of quantitative performance indicators according to a risk-based approach. The list of verified indicators can be found on pages 79 to 81. GHD was also mandated to verify the compliance of the Report's quantitative performance information with specific indicators drawn from the Global Reporting Initiative (GRI) Standards.

Level of assurance and standards

This Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core Option. GHD's evaluation set out to demonstrate the reliability of selected indicators. Based on the GRI Standards Reporting Principles, the organization must be able to identify the original sources of the information in the report and provide reliable evidence to support assumptions and complex calculations. As mandated, GHD conducted its evaluation to a moderate level of assurance. The evaluation also qualified Hydro-Québec's adherence to the GRI Standards Reporting Principles for defining report content.

Statement of independence

GHD has established a conflict-of-interest verification protocol, which is rigorously applied to ensure its independence and that of its staff in the execution of evaluation mandates. This evaluation was performed by independent, experienced and qualified professionals in accordance with GHD's conflict-of-interest verification process.

Methodology

GHD completed its evaluation as per the general principles outlined in ISO Standard 14064 Part 3. This standard outlines the verification principles to apply in order to ensure that greenhouse gas emissions reporting is complete, accurate, consistent and transparent.

GHD also verified the indicators presented by Hydro-Québec in its *Sustainability Report 2020* by following the GRI Standards approach to defining report content and quality, and by applying a risk-based approach. The risk associated with the quantitative data presented in this Report is defined as the set of elements likely to contain errors or omissions that could have a major impact on the final values.

External assurance

The review procedures applied in this evaluation focused on the following:

1. Origins and traceability of source data
2. Limited sampling of documentary evidence
3. Revision of the calculation assumptions
4. Validation of calculations
5. Identification of errors and omissions

To support its evaluation, GHD determined the risks associated with each indicator, based on the quantitative data provided and interviews conducted with many stakeholders. The document review and interviews conducted by GHD's project team set out to confirm that:

- The documentation was complete and comprehensible.
- The data collection methods used were justified and appropriate.
- The calculations were appropriate and based on appropriate assumptions.
- Information management systems and their controls were robust enough to minimize the potential for errors, omissions and misinterpretation. GHD completed its data verification by taking samples of reports, invoices and documentary evidence supporting the source data, to validate the traceability and proper use of the values presented in this Report.

Conclusion

GHD's independent evaluation using the approach described above confirmed the reliability of the performance indicators verified. This information thus constitutes a reliable account of Hydro-Quebec's sustainability performance for the period from January 1 to December 31, 2020.

The evaluation also confirmed that the *Sustainability Report 202*0 was prepared in accordance with the Global Reporting Initiative (GRI) Standards, i.e., taking into account stakeholders, the sustainable development context, materiality and comprehensiveness.

Montréal, March 18, 2021

Nuran Attarmigiroglu
Lead Auditor
GHD

Share your comments with us

We'd like to know what you think of our report. Please submit your questions and comments.

Units of measure

¢/kWh	cent or $0.01 per kilowatthour
$'000	thousands of dollars
$M	millions of dollars
$B	billions of dollars
V	volt (a unit for measuring voltage)
kV	kilovolt (one thousand volts)
W	watt (a unit for measuring power)
kW	kilowatt (one thousand watts)
MW	megawatt (one million watts)
GW	gigawatt (one billion watts)
Wh	watthour (a unit for measuring electric energy)
kWh	kilowatthour (one thousand watthours)
MWh	megawatthour (one million watthours)
GWh	gigawatthour (one billion watthours)
TWh	terawatthour (one trillion watthours)
MMBtu	one million Btu (British thermal units)
t	tonne (metric ton)
g CO_2 eq.	gram of CO_2 equivalent
t CO_2 eq.	tonne of CO_2 equivalent
kt CO_2 eq.	thousands of tonnes of CO_2 equivalent
Mt CO_2 eq.	millions of tonnes of CO_2 equivalent
Mtoe	million toe (a million tonnes of oil equivalent)
PJ	petajoule (unit of energy equal to 10^{15} joules)

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